

AG Contract No. KR01-1633TRN
ADOT ECS File No. JPA 01-129
Project: Interstate 10 (I-10) *H 554901C I - 010-B-502*
TRACS No.: ~~H 5448-01C I 010-B-501 & 502~~
~~H 4921-03C RAM 202-A-502~~
Section: Watson Road Traffic Interchange

AGREEMENT

BETWEEN
THE STATE OF ARIZONA
AND
BUCKEYE LAND MANAGEMENT, INC.

THIS AGREEMENT is entered into 5 OCTOBER, 2001, pursuant to the Arizona Revised Statutes, Section 28-401, as amended, between the STATE OF ARIZONA, acting by and through its DEPARTMENT OF TRANSPORTATION (the "State") and Buckeye Land Management, Inc. (the "Developer").

I. RECITALS

1. The State is empowered by Arizona Revised Statutes Section 28-408 to enter into this Agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this Agreement and has delegated to the undersigned the authority to execute this Agreement on behalf of the State.
2. The Developer is empowered to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this Agreement and has authorized the undersigned to execute this Agreement on behalf of the Developer.
3. The Developer desires to design, fund and construct a full diamond interchange on I-10 at Watson Road alignment, for the estimated amount of \$2,568,700.00, herein referred to as the "Project". The Developer has an application pending with the FHWA for a Change of Access to allow the construction of said interchange. The State has included the commencement of construction of the Project in ADOT's 5-Year Construction Program in fiscal year 2002, as a developer-funded project.
4. The purpose of this Agreement is to define each party's responsibility relative to the funding and actual construction of the Project and the authorize the Developer to proceed with construction of the Project.
5. Nothing herein shall be construed to impose any financial obligation on the State.

THEREFORE, in consideration of the mutual agreements expressed herein, it is agreed as follows:

II. SCOPE OF WORK

1 The Developer will:

a. Retain and contract with competent professionals to prepare to state and federal standards construction plans, specifications, material reports, drainage reports, structural reports, right of way plans, construction cost estimates and any other documents required for construction bidding and construction of the Project (collectively the "Plans") and the approved Scope of Work, shown on Exhibit "A", attached hereto and made a part hereof. Without limiting the foregoing, the Plans will include the documents listed on Exhibit "B", attached hereto and made a part hereof. All planned work by the Developer within the State's access controlled rights of way, shall be requested through the State's Phoenix Maintenance District Permit Office.

b. Provide the State with copies of the Plans for review at the Stage I, II, III, IV and final design submittals.

c. After the Final Plans have been approved by the Developer and the State, obtain from its Consultant an estimate (the "Pre-Bid Estimate") of the cost to construct the Project and will submit same to the State

d. Procure and administer a construction contract (the "Construction Contract") with an Arizona Department of Transportation (ADOT) pre-qualified construction contractor (the "Contractor"), pursuant to the procedures outlined in Arizona Revised Statutes Section 28-6923(K), as amended by Laws 1999, Chapter 136 (effective August 6, 1999) and as may be amended from time to time; provided however, that if Developer elects to use bond proceeds raised through a Community Facilities District, then Developer shall procure and administer a Construction Contract with an ADOT Contractor, pursuant to the procedures outlined in Arizona Revised Statutes Section 28-6923 (A through J). Any award of the contract must be approved by the Transportation Board.

e. The Developer shall have the right to decline award of a construction contract if all bids received are greater than ten percent (10%) higher than the Pre-Bid Estimate, and will be responsible for all costs reasonably incurred by the State up to the time of demur, unless the reason is due to the State's failure to comply with its obligations hereunder.

f. Pay all costs and expenses incurred in connection with the construction of the Project, including all amounts due under the Construction Contract awarded by the Developer (the "Contract Price"), all cost increases due to change orders (which will be subject to approvals provided herein), construction management fees for ADOT to provide construction management oversight, (the "ADOT Construction Management Fee"), and an ADOT staff fee for the preparation and review of planning and design documents (the "ADOT Review Fee"). The ADOT Review Fee will be paid quarterly within fifteen (15) days of receipt of each quarterly accounting from the State. The ADOT Construction Management Fee shall be calculated based on the time devoted to the project by ADOT consultants and employees (calculated in the case of ADOT employees based on a pro rata allocation of the employee's salary and employee related expenses) and actual out-of-pocket expenses, but in no event will the ADOT Construction Management Fee exceed four percent (4%) of the Contract Price. The ADOT Construction Management Fee will be paid following acceptance of the Project by the State and within fifteen (15) days after receipt by the Developer of an accounting from the State setting forth the amount owed and the basis for determining such amount. The Developer shall be permitted to audit any books and records of the State related to calculations of the ADOT Construction Management Fee.

g. As security for the Developer's agreement to pay the costs of constructing the Project, the Developer will provide the State with a surety bond issued by a company approved by the State in an amount equal to 125% of the Contract Price. At the Developer's request, the surety bond shall be partially exonerated on a quarterly basis, so that the remaining bond equals 125% of the portion of the Project remaining to be completed, including construction change orders; plus any claims, whether accepted or

not, except the last 12.5% of the Contract Price shall not be exonerated until the Contractor has been fully paid, all disputes resolved, and upon Project certification and acceptance by the State.

h. Be responsible for the donation or acquisition of any right of way necessary for the Project. Right of way currently owned by ADOT will be used for this project at no cost to the developer.

i. Administer the Project and cause the Project to be completed in accordance with the Final Plans, the Construction Contract, the State policies and procedures itemized in the Construction Administration Scope of work, attached hereto as Exhibit "C", and applicable Laws. Be responsible for any claims by the Contractor for extra compensation in excess of the Contract Price. The Developer shall require its contractor to name the State as an additional insured in the contractor's insurance policies. The Developer shall also require its contractors to name the State as an additional indemnity in the Developer's contracts with its contractors.

j. Notify the State in writing of any proposed contract modifications, change orders, letter Agreements or force account work necessary to accomplish the Project, all of which shall be subject to the State's approval, as provided below.

k. Require the Contractor to complete each phase of the Project within three months after commencement of each phase of the Construction Contract, and to complete the final phase of the Project by no later than 30 December, 2002, subject only to force majeure events (as provided in the Construction Contract) and delays due to change orders mutually approved by the Developer and the State.

2. The State:

a. Will review and approve and/or provide comments to the Plans at the Stage I, II, III, IV and final design submittals and provide the Developer with its review comments within thirty (30) days of receipt of said Plans. If the State objects to the Plans within such 30-day period, the Developer and the State at the Developer's request, shall meet and confer to resolve any objections, and following any such meeting, the Developer shall include the agreed changes in the following Plan submittal. Any review comments made to the revised Plans shall be made within 30 days of submittal and shall follow the procedure outlined above.

b. Within ten (10) days after submittal of the Final Plans, will approve the Project for construction or make objections as provided above in Paragraph 2 a.

c. Will allow construction of the Project within the State's access controlled rights of way, contingent upon the Developer obtaining proper permits from the State's Phoenix Maintenance District Permit Office.

d. Will inspect the Developer's administration of the Project on a regular basis to ensure the Project is completed in accordance with the Final Plans, the Construction Contract, State policies and procedures and applicable Laws.

e. Will review and approve in writing any proposed contract modifications, change orders, letter Agreements or force account work necessary to accomplish the Project. The State will review such item within the (10) days after receipt of a written request from the Developer and if it objects to any such items, shall specify in writing the nature of its objection within such 10-day period.

f. Upon completion of the Project, will maintain the Project as set forth in conditions stated in paragraph 3 c. below.

3. The Developer and State agree:

a. Once the Plans, at the 100% level of completion, have been approved by the State, such Plans will be referred to as the "Final Plans." The Final Plans will not be amended, revised or modified without the Developer's and the State's prior written approval, which will follow the approval procedure described in Section 2.e. above.

b. All bid documents, all construction contracts (collectively, the "Construction Contract") and amendments, change orders and/or any other modifications thereto (all collectively, the "Construction Documents") will be approved jointly by the Developer and the State in their reasonable discretion prior to commencement of the bid or contract modification process.

c. The Developer will provide the State with the construction schedule for the Project, and the State will perform all tests and take all actions for which it is responsible so as not to delay the Project.

d. To jointly resolve any disputes arising under the administration of the Construction Contract. The Developer will notify the State in writing of any disputes.

e. Upon reasonable notice to the Developer, the State will have the right to audit all books and records of the Developer, relating to the Project, and the Developer will make all such books and records available for copying by the State, at the Developer's expense.

f. At any time prior to awarding the Construction Contract, the Developer may take the following action upon written notice to the State:

i. The Developer may suspend work on the Project by written notice to the State, in which event this Agreement shall continue in effect, but any time periods for the performance of actions required under this Agreement will be suspended for 12 months, or until the Developer notifies the State of its intent to resume the Project, whichever is earlier. The Developer shall bear all costs and shall maintain the Project site in the same condition as existed prior to this agreement, such as number of lanes open.

ii. The Developer may terminate this Agreement for any reason whatsoever prior to commencement of construction, but the Developer will be responsible for all costs reasonably incurred by the State up to the time of termination, unless the reason for the Developer's termination is due to the State's failure to comply with its obligations hereunder.

i. Nothing herein shall be construed to impose any financial obligation on the State, or any obligation to construct or in any way fund the proposed improvements.

g. The State will not accept or certify the Project as complete until all review fees, construction management fees and all other amounts payable to the State.

III MISCELLANEOUS PROVISIONS

1. This Agreement is contingent upon approval of the Change of Access Report by Federal Highway Administration.

2. The State assumes no financial obligation or liability under this agreement, nor for any resulting construction project. The Developer, in regard to the Developer's relationship with the State only, assumes full responsibility for the design, plans, specifications, reports, the engineering in connection therewith and the construction of the improvements contemplated, cost over-runs and construction claims. The Developer shall require its contractors to name the State as an additional insured in the contractor's insurance policies, including but not limit to, property, person and any other liability. The Developer shall also require its contractors to name the State as an additional indemnity in the Developer's contracts with its contractors. It is understood and agreed that any damages arising from carrying out, in any respect, the terms of this agreement or any modification thereof, shall be solely the liability of the Developer and that to the extent permitted by law, the Developer hereby agrees to save and hold harmless and indemnify

from loss the State, any of its departments, agencies, officers, or employees from any and all cost and/or damage or to any person or property whatsoever, which is caused by any activity, condition, misrepresentation, directives, instruction or event arising out of the performance or nonperformance of any provisions of this agreement by the State, any of its departments, agencies, officers and employees. Costs incurred by the State, any of its departments, agencies, officers, or employees shall include in the event of any action, court costs, expense of litigation and attorneys' fees.

3. Developer shall not transfer, sale, assign or otherwise dispose of all or any part of the agreement or the rights hereunder with out prior written consent of the State.

4. This Agreement shall remain in force and effect until completion of the work and related deposits or reimbursements, except that any provisions herein for maintenance shall be perpetual.

5. This Agreement shall become effective upon both parties signing this Agreement.

6. This Agreements may be canceled in accordance with A.R.S. Section 38-511.

7. The provisions of A.R.S. Section 35-214 are applicable to this Agreements.

8. In the event of any controversy between the Developer and the State which may arise out of this Agreement, regardless of amount or subject, the parties hereto agree to abide by binding-arbitration pursuant to in A.R.S. Section 12-1518.

9. All notices or demands upon any party to this Agreement shall be in writing and shall be delivered in person or sent by mail addressed as follows:

Arizona Department of Transportation
Joint Project Administration
205 South 17th Avenue, Mail Drop 616E
Phoenix, Arizona 85007

Buckeye Land Management, Inc.
Development Manager
8501 E. Princess Drive, Suite 200
Scottsdale, AZ 85255

Titus, Brueckner & Berry
7373 N. Scottsdale Road, Suite B-252
Scottsdale, Arizona 85253-3527
Attn: Marc Blonstein

10. Attached hereto and incorporated herein is the written determination of each party's legal counsel that such party is authorized under the laws of this state to enter into this Agreement.


11. If either party fails to perform its obligations hereunder the non-defaulting party shall notify the defaulting party in writing and the defaulting party shall have five (5) days (or if such default cannot be cured within five (5) days a reasonable period of time not to exceed thirty (30) days) to cure its default.

12. This Agreement represents the entire agreement of the parties relating to the Project and supersedes and replaces all prior agreements, whether written or oral. This Agreement may be amended in whole or part by written agreement or letter agreement executed by both parties.

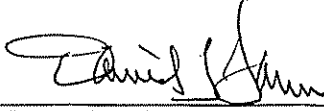
13. The Recitals stated above are true and correct and are incorporated herein by this reference.

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

BUCKEYE LAND MANAGEMENT, INC.

By 
JIM ARNESON
ITS _____

STATE OF ARIZONA
Department of Transportation

By 
DANIEL S. LANCE, P.E.
Deputy State Engineer

ATTEST:

By 

01-129-Buckeye Land Mgmt-Watson Rd.
04Oct2001

APPROVED

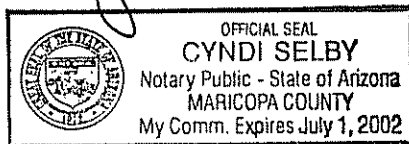
Notary Public
for the State of Arizona
My Commission Expires

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 5th day of October, 2001, by DANIEL S. LANCE, Deputy State Engineer, on behalf of the State of Arizona, Department of Transportation.

Jodi Cyndi Selby
Notary Public
My Commission Expires:

07/01/02

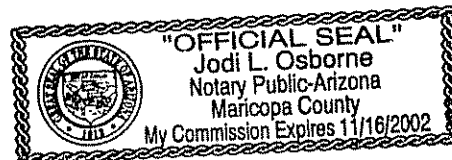


STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 5th day of October, 2001, by Jim Arneson, Authorized Agent of Buckeye Land Management, Inc., an Arizona corporation.

Jodi L. Osborne
Notary Public
My Commission Expires:

11/16/02



**UNANIMOUS CONSENT
IN LIEU OF A SPECIAL MEETING OF
THE BOARD OF DIRECTORS OF
BUCKEYE LAND MANAGEMENT, INC.**

September 24, 2001

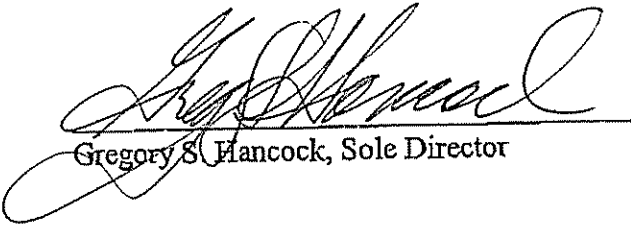
Pursuant to A.R.S. §10-821, the undersigned Director, being the sole Director of the Company, hereby consents that the following actions and resolutions be taken and adopted as the actions and resolutions of a special meeting of the Board of Directors.

WHEREAS, the Board of Directors has considered entering that certain Agreement with the Arizona Department of Transportation relating to the Watson Road Interchange ("Agreement")

NOW, THEREFORE, it is resolved as follows:

RESOLVED, that the Board of Directors hereby ratifies, confirms and approves the execution of the Agreement, and any officer of the Corporation shall be authorized to execute the Agreement.

IN WITNESS WHEREOF the undersigned Director of the Corporation has executed this Consent as of the 24th day of September, 2001.



Gregory S. Hancock, Sole Director

EXHIBIT A

AGREEMENT JPA 01-129

Design Scope of Work



CONSTRUCTION ADMINISTRATION
SCOPE OF WORK

TRACS No.: 010 MA 117 H5549 01C

STP-010-B 502

EHRENBURG-PHOENIX HIGHWAY

Watson Road/Interstate 10

New Traffic Interchange Improvements

RBF CONSULTING
16605 N. 28th AVENUE
SUITE 100
PHOENIX, ARIZONA 85053

September 2001

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GENERAL SCOPE OF WORK

RBF Consulting (hereinafter known as "CONSULTANT") shall serve as an extension of Buckeye Land Management, Inc. staff to administer the construction contract in accordance with the policies, procedures and criteria required by ADOT for highway construction, the project scope of work, the project plans and specifications, ADOT standard drawings, and appropriate ADOT manuals. The CONSULTANT shall provide sufficient trained personnel to adequately and competently perform the requirements of this project. The CONSULTANT shall also provide all vehicles, field office and office supplies. A field laboratory with appropriate on-site and off-site materials testing equipment may be required for this project, depending on the location of the Contractor's proposed materials source.

The CONSULTANT shall be the sole authorized contact with the CONTRACTOR during construction. Buckeye Land Management, Inc. shall relay all information and requests for the CONTRACTOR through the CONSULTANT.

The ADOT District Engineer and/or ADOT Construction Quality Assurance team will conduct periodic inspections of the project inspection reports, construction activities, materials logs and other items to ensure the project is completed in accordance with the policies, procedures and criteria required by ADOT for highway and bridge construction, the project scope of work, the project plans and specifications, ADOT Standard Drawings, and appropriate ADOT manuals. The frequency of these inspections is anticipated to be every 2 - 4 weeks. The results of these inspections will be conveyed to the CONSULTANT by the ADOT staff member. If applicable, the CONSULTANT shall correct any deficiency expressed by ADOT.

The CONSULTANT and the staff shall complete the construction administration duties necessary for this project. All communications regarding questions and issues which arise on this project will be coordinated with the CONTRACTOR, the Design Engineer, and all involved project stakeholders. The CONSULTANT will not be authorized to revise the project design and/or specifications without prior approval of the Design Engineer, the ADOT District Engineer and ADOT Technical Staff.

The CONSULTANT shall make the staff assigned to this project available for an over view presentation on office documentation for contractor invoicing, if deemed necessary, to be provided by Buckeye Land Management, Inc. personnel.

An ADOT Consultant Handbook, developed from the ADOT Standards and Specifications, ADOT Policies and Procedures Manual, Construction Manual, Office Engineering Manual and the Materials Policy and Procedure Directives Manual, Materials Preliminary Engineering and Design Manual, and the ADOT Materials Testing Manual shall be obtained by the CONSULTANT. A copy of this Handbook shall be provided to the CONSULTANT and Design Engineer and shall be available at the field office at all times.

The Consultant is responsible to make all arrangements for the following:

- The Partnering Workshop, according to Section 104.01(b) of the 1990 Standards Specification for Road and Bridge Construction and Guidelines of Construction Bulletin CB 92-2.

- The Pre-Construction Conference, according to Section 108.03 of the 1990 Standards Specifications for Road and Bridge Construction, and the current ADOT Construction Manual.

The CONSULTANT duties will include arranging, conducting and notifying all stakeholders of these meetings.

The CONSULTANT providing construction administration services and the CONTRACTOR performing project construction on this project cannot have the same parent company or any corporate association.

All means of direct communication (i.e. beepers, cellular telephones etc.) for the CONSULTANT'S key representative(s) shall be provided by the CONSULTANT during the life of this contract, or for the duration of the construction contract whichever is later.

LENGTH of SERVICES

The length of service shall be 250 calendar days from the Notice to Proceed to complete the project including all project certification documentation, final contractor payment, as-built plan completion, and ADOT acceptance of the project.

STAFFING REQUIREMENTS

The CONSULTANT shall have the project personnel available as necessary for all project duties. The CONSULTANT shall make adjustments in personnel to satisfy the project requirements in accordance with the approved Project Schedule, or as the CONTRACTOR deems necessary for completion of the project.

The CONSULTANT personnel assigned to this project must have prior ADOT highway construction experience, and be able to perform in a proper and skillful manner in all areas of work covered by this Agreement. The CONSULTANT shall at all times maintain a good working relationship with the CONTRACTOR throughout the duration of the project.

Any employee of the CONSULTANT or his SUB-CONSULTANT who, in the opinion of Buckeye Land Management, Inc., does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of Buckeye Land Management, Inc., be removed immediately by the CONSULTANT and shall not be employed again in any portion of the project work without written approval of Buckeye Land Management, Inc.

The following positions are defined as **"KEY PERSONNEL"** by Buckeye Land Management, Inc.:

RESIDENT ENGINEER

SURVEY PARTY CHIEF

**TRAFFIC CONTROL SPECIALIST
CHIEF INSPECTOR**

MATERIALS LABORATORY SUPERVISOR

FIELD OFFICE SUPERVISOR

NOTE: KEY PERSONNEL, AS DEFINED ABOVE AND AS IDENTIFIED IN THE STATEMENT OF QUALIFICATIONS, SHALL NOT BE REPLACED ON THE PROJECT WITHOUT THE PROJECT MONITOR'S WRITTEN APPROVAL.

Additional positions may be identified as **"KEY"** if required on the project with written confirmation from Buckeye Land Management, Inc.

RESIDENT ENGINEER:

The RESIDENT ENGINEER listed above all shall be registered as a Civil Engineer in the State of Arizona, and shall have prior ADOT experience as a Resident Engineer on highway and bridge construction projects.

Depending on project need, the RESIDENT ENGINEER and other appropriate key personnel shall be available to begin work within one week of the execution of this Agreement, or as otherwise authorized by Buckeye Land Management, Inc. The need of the RESIDENT ENGINEER and his key personnel on the project will be according to the negotiated hours identified on the contract.

The RESIDENT ENGINEER shall be responsible for all tasks required for completion of the project including, but not limited to:

1. To ensure the project surveys, materials testing and field inspection tasks are performed in accordance with ADOT policies and procedures, and to assure the project is completed in accordance with the project plans and specifications.
2. To interpret and explain the plans and specifications to the CONTRACTOR, keep all conflicts to a minimum, and diplomatically settle any disputes with the CONTRACTOR.
3. To inspect all phases of the project work to ensure construction quality and conformance with the project specifications.
4. To measure and compute quantities and prepare progress and final estimates for monthly payments to the CONTRACTOR.
5. To be responsible for the activities and efficiency of the CONSULTANT personnel performing tasks associated with the project, and ensure the project is properly staffed to ensure the project is completed in accordance with ADCOT policies, procedures, directives and the project specifications.
6. To accept or reject the project work in accordance with Section 105 of the Standard Specifications.

If the project is double-shifted with similar work demands on each shift, then the CONSULTANT may be required to provide a second RESIDENT ENGINEER. The RESIDENT ENGINEER shall participate in the pre-bid conference, if one is held with prospective CONTRACTORS.

SURVEY PARTY CHIEF:

The SURVEY PARTY CHIEF shall be experienced in the layout of major highway projects and shall supervise all CONSULTANT staking under the general direction of a registered Professional Engineer. Any survey to establish right-of-way lines or markers must be performed

by or under the immediate direction of a registered Land Surveyor. Eighty percent (80%) of the technicians performing the survey work shall be certified by the National Institute for Certification In Engineering Technologies (NICET) at Level II or above in the appropriate field. The percentage of (NICET) personnel may vary dependent upon size of crew as approved by Buckeye Land Management, Inc. Survey work to be done according to SECTION 925-3 of the 1990 Standard Specifications for Road and Bridge Construction.

TRAFFIC CONTROL SPECIALIST:

The CONSULTANT shall furnish a TRAFFIC CONTROL SPECIALIST other than the RESIDENT ENGINEER or as otherwise authorized by Buckeye Land Management, Inc.

The specialist assigned this task on the project shall be highly knowledgeable in work zone traffic control procedures and thoroughly familiar with the ADOT Traffic Control Manual for Highway Construction and Maintenance and the 1990 Standard Specifications for Road and Bridge Construction. This specialist shall be assigned to inspect the work of the CONTRACTOR involving the maintenance and protection of traffic requirements of the contract, and shall be subject to be on-call 24 hours per day, seven (7) days a week. Daytime, nighttime and weekend inspections shall be made and documented by the TRAFFIC CONTROL SPECIALIST in accordance with ADOT requirements.

Buckeye Land Management, Inc. must be provided the telephone number or other means of communication of the RESIDENT ENGINEER and TRAFFIC CONTROL SPECIALIST for emergency situations after hours, weekends and holidays that may require immediate attention of the specialist.

CHIEF INSPECTOR:

The CONSULTANT shall furnish a CHIEF INSPECTOR who has skills and knowledge in analyzing, evaluating, researching, reading, and interpreting a variety of technical engineering data, that include the highway construction plans, field survey data and quality control documentation.

This inspector must possess skills in oral and written communications to include interpersonal relations as applied to contacts with contractors, ADOT staff and representatives of other governmental jurisdictions and additional skills in organizing and prioritizing work assignments.

MATERIALS LABORATORY SUPERVISOR:

The MATERIALS LABORATORY SUPERVISOR qualifications shall be in accordance with the requirements of Appendix A, Section 2.4 of this document. Responsibilities shall include verification of all materials incorporated into the project such as certifications, testing, documentation, and reporting of test results. The Materials Laboratory Supervisor shall also coordinate with ADOT Materials Section for the ADOT inspection and materials testing during the fabrication of the precast, prestressed concrete bridge girders. The Materials Laboratory Supervisor shall coordinate with the ADOT Area Laboratory Supervisor for materials acceptance testing performed by ADOT at Commercial Materials Source and Independent Assurance Testing.

The CONSULTANT shall provide sufficient trained personnel for on-site and off-site materials testing whose qualifications shall be in accordance with the requirements of Appendix A,

Section 2.4 to adequately and completely perform the requirements of this agreement. ADOT forms will be required to document all materials test results, and all records shall be filed in accordance with the procedures shown in the ADOT Construction Manual. All forms shall be provided by the CONSULTANT.

FIELD OFFICE SUPERVISOR:

The FIELD OFFICE SUPERVISOR must be knowledgeable in computer usage and highly experience in analyzing and evaluating a wide variety of highly technical engineering data, including construction plans, field survey, and quality control documentation. Knowledge required should include skills in interpreting and implementing the 1990 Standard Specifications for Road and Bridge Construction, ADOT policies, procedures, documentation, progress reporting and regulations; also, skills in interpersonal relations, as applied to contacts with contractors, ADOT staff and representatives of other governmental jurisdictions.

The CONSULTANT shall provide a computer capable of handling a computerized logging system for the documentation and reporting of all quantities, similar to the reporting system utilized by ADOT. Monthly invoices from the CONTRACTOR shall be reviewed and approved by the FIELD OFFICE SUPERVISOR and RESIDENT ENGINEER prior to submittal to Buckeye Land Management, Inc. for payment.

All office supplies and equipment required to carry on the provisions of the contract shall be furnished by the CONSULTANT. Forms required by ADOT will be furnished by the CONSULTANT.

CONSULTANT SERVICES

MATERIALS TESTING and VERIFICATION

The CONSULTANT shall provide a materials testing laboratory, testing equipment and all materials necessary to perform all sampling and testing. Materials and equipment shall include, but not necessarily be limited to, vehicles for transporting personnel, testing equipment and all other devices to determine the quality and acceptability of materials and workmanship which will be incorporated into the project unless otherwise specified.

The materials sampling and testing will be completed in accordance with the current ADOT Materials Acceptance Sampling Guide Schedule and the ADOT Materials Testing Manual for testing and verification. The CONSULTANT may also be required to obtain and test random samples by Buckeye Land Management, Inc. if deemed necessary for acceptance, verification or quality assurance testing. The CONSULTANT shall accomplish this by either using his own personnel and equipment or by subcontracting the work to an outside materials testing laboratory.

Whether the CONSULTANT provides his own laboratory or subcontracts the work to a SUB-CONSULTANT, documentation must be made to Buckeye Land Management, Inc. in writing that the requirements of Appendix A have been met for a materials testing laboratory, and is listed in the ADOT Directory of Eligible Materials Testing Laboratories.

If the CONTRACTOR elects to use a non-commercial materials source, the CONSULTANT may be responsible to locate and set up a field laboratory in the immediate vicinity of the project on a site designated by Buckeye Land Management, Inc. The field laboratory shall include all

utilities such as electricity, water and all other utility connections required to perform the materials sampling and testing activities as required by the ADOT Materials Testing Manual.

The CONSULTANT will be required to coordinate with the ADOT Area Laboratory for the sampling and testing of all materials produced for this project from a commercial materials source. Typically, all materials testing shall be completed by the ADOT Area Laboratory if a commercial plant is part of a continuous inspection program by an ADOT Area Laboratory.

Independent Assurance sampling and testing will be performed by the ADOT Regional Laboratory in accordance with ADOT policy requirements. Independent Assurance sampling and testing will not be performed by the same laboratory performing acceptance testing for this project.

Asphaltic concrete mix designs will be prepared by the CONTRACTOR in accordance with Section 406 of the 1990 Standard Specifications for Road and Bridge Construction. The CONSULTANT shall provide verification testing and approval of the CONTRACTOR'S proposed asphaltic concrete mix design, and provide acceptance testing in accordance with the ADOT policies and procedures.

Concrete mix designs, including any admixtures, shall be submitted by the CONTRACTOR to the CONSULTANT for review. Final approval of concrete mix designs proposed for this project will be coordinated with the ADOT Phoenix District Materials Engineer. All field adjustments required on concrete mix designs must be approved by the CONSULTANT.

NOTE: THE CONSULTANT OR SUB-CONSULTANT CANNOT PROVIDE ANY MIX DESIGN SERVICES FOR THE CONTRACTOR.

All materials test results will be obtained by the CONSULTANT within the requirements established in Appendix B of this document, and on forms identified in the ADOT Materials Testing Manual, ADOT Materials Section Policy and Procedures Directives Manual, of the ADOT Construction Manual. All materials test results shall be logged and filed in accordance with the ADOT Construction Manual. If available for this project, the CONSULTANT shall utilize the ADOT computerized Materials Log software.

Materials sampling frequency shall follow the requirements of the ADOT Sampling Guide. The frequency of split samples for correlation testing will be determined by the CONSULTANT and the ADOT Area Laboratory, but will generally occur at the approximate rate of one in five.

The split sample will be delivered to the designated laboratory location for testing and evaluation within two (2) days from the sampling date unless otherwise approved. A weekly up-to-date materials log on all test results will be maintained in the office utilizing ADOT computer software if provided by ADOT. At the end of construction of the project, the CONSULTANT shall submit a completed and signed final sample checklist for the project, in addition to the following signed certification:

"This is to Certify that:

The results of the test on acceptance samples indicate that the materials incorporated in the construction work and the construction operations controlled by sampling and testing were in reasonably close conformity with the approved plans and

specifications; such results compare favorably with the results of the independent assurance sampling and testing.

Exceptions to this certification are explained herein, or on attached sheet."

SURVEYING

Construction survey will be provided by the CONTRACTOR, as described under Section 925 of the 1990 Standard Specifications for Road and Bridge Construction. The CONSULTANT shall be responsible for survey work identified as work to be performed by the Department, as described under Section 925-3 of the 1990 Standard Specifications for Road And Bridge Construction.

Survey work shall include providing all control points for establishing construction centerlines, structure locations, right-of-way boundaries and project limits. All control points and bench marks shall be set in concrete. In addition, the CONSULTANT will review and approve the CONTRACTOR'S written outline of his proposed methods of staking, marking of stakes, grade control for various materials courses, referencing, structure control, and any other procedures and controls necessary for survey completion.

The CONSULTANT shall make inspections and random checks of the CONTRACTOR'S staking according to Section 925-3 of the 1990 Standard Specifications for Road and Bridge Construction at important stages of construction and shall document and order all improper work to be re-surveyed by the CONTRACTOR.

NOTE: THE CONSULTANT OR SUB-CONSULTANT SHALL NOT PERFORM ANY SURVEY WORK FOR THE CONTRACTOR AND SHALL NOT HIRE THE CONTRACTOR'S SURVEY PERSONNEL TO PERFORM ANY SURVEY WORK UNDER THIS CONTRACT.

INSPECTION:

The CONSULTANT is responsible for inspection the work of the CONTRACTOR to ensure compliance with ADOT specifications on all contract items.

Inspection of any commercial or contractor's materials plant operations will be done by CONSULTANT.

NOTE: THE CONSULTANT IS NOT PERMITTED TO INCORPORATE OR CHANGE THE INSPECTION TEAM PERSONNEL WITHOUT APPROVAL OF BUCKEYE LAND MANAGEMENT, INC. INSPECTOR'S HOURS SHALL PARALLEL THE CONTRACTOR'S WORK SCHEDULE.

Eighty percent (80%) of the CONSULTANT'S inspection team shall meet one the following requirements:

- a. Engineering-In-Training certified by the State of Arizona with two years of highway experience acceptable to the Department.

- b. An individual with three years of highway experience acceptable to the Department and with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.
- c. Highway Construction technician certified by NICET.
- d. A NICET certified Engineering Technician in Civil Engineering Technology with five years of highway experience acceptable to the Department.

DOCUMENTATION

General

The CONSULTANT shall provide and setup an office with all equipment and supplies necessary to perform the required administrative duties of this contract on a site provided by Buckeye Land Management, Inc. The field office shall include all utilities, such as electricity, water and all utility connections required to perform administrative requirements of this contract.

The CONSULTANT will maintain separate and distinct records, files, all necessary inspection diaries, log books, survey staking records, materials test results, and all needed documentation to justify all pay estimates in accordance with ADOT Standards. All office documentation shall be input on a personal computer or machine of similar capabilities provided by the CONSULTANT using ADOT software.

Under the terms of this contract, the CONSULTANT will supply the required software to properly administer the contract. CONSULTANT shall provide hardware, operating systems, support and training to all staff to include their sub-contractor(s) in the use of such hardware and software.

ADOT Standards include, but are not limited to, the current Construction Manual, 1990 Standard Specifications for Road and Bridge Construction and Project Special Provisions, ADOT Materials Testing Manual, ADOT Materials Policy and Procedure Directives Manual, ADOT Traffic Control Manual and all other manuals which are referred to in the Construction Project Special Provisions. The CONSULTANT shall provide a complete set of all pertinent documents at the project field office at all times.

The CONSULTANT shall compile and submit in accordance with the current Construction Manual, all reports, monthly and final estimates, records, as-built plans, photographs, video recordings of various phases of construction and all other data which may be required for proper completion of records of the project.

A daily diary describing the progress of the work, specific problems encountered, and all other pertinent information relative to the execution of the project shall be prepared by each member of the CONSULTANT staff in accordance with the current Construction Manual. A copy of the diary information shall be filled in the CONSULTANT'S field office on a daily basis.

The CONSULTANT is responsible for field measurements and all other pertinent information necessary to compile monthly and final quantity and pay estimates, reports and as-built plans. Buckeye Land Management, Inc. will furnish a large set and two (2) half size sets of plans to be used for as-built plans; for recording all information of changes or additions to the original design as the work is being completed.

WEEKLY MEETINGS

The CONSULTANT'S RESIDENT ENGINEER shall conduct weekly meetings with the CONTRACTOR, SUBCONTRACTORS, DESIGN ENGINEERS, and all other stakeholders during the course of construction, as outlined in SECTION 108-04 of the 1990 Standard Specification for Road and Bridge Construction. These meetings shall be recorded and produced in a written summary with copies of minutes provided to all participants in attendance.

PAY ESTIMATES

The CONSULTANT will prepare intermediate and monthly pay estimates. These estimates shall be prepared in accordance with instructions outlined in the current Construction Manual, or in accordance with the Buckeye Land Management, Inc. invoicing procedures.

PROGRESS REPORTS

The CONSULTANT will submit narrative progress reports to the ADOT District Engineer and Design Engineer on a weekly and monthly basis. The weekly reports shall be delivered by Monday afternoon following the week covered in the report, and they shall contain considerable detail about activities on the project. The monthly reports shall be delivered by the fifth of each month, and shall consist of a brief recap of the project progress for the previous month.

MANAGEMENT STAFFING SCHEDULES

The CONSULTANT will be required to submit a management schedule each week based on the CONTRACTOR'S schedule. This schedule will show the CONSULTANT'S manpower plan for the two-week period, as shown in the CONTRACTOR'S weekly schedule, to cover the CONTRACTOR'S operation. A copy of the schedule shall be submitted to Buckeye Land Management, Inc. by Friday of each week for approval. The schedule will indicate the type and number of personnel anticipated to cover the CONTRACTOR'S operation for each day of the two-week period.

A staffing plan shall be prepared and submitted to Buckeye Land Management, Inc. prior to start of work based on the CONTRACTOR'S original construction progress schedule. The CONSULTANT will provide updates to the staffing plan on a monthly basis to project resource needs through the completion of the project.

Monthly payroll reports distributing CONSULTANT labor costs to whole hours, and a summary report of expended work-hours utilizing shall be provided to Buckeye Land Management, Inc. This work-hour summary report shall be provided with the monthly invoice in a format provided by Buckeye Land Management, Inc.

CHANGE ORDERS and FORCE ACCOUNT WORK REQUESTS

As approved by the Buckeye Land Management, Inc., the Consultant will initiate and create all CONTRACTOR'S Change Orders and Force Account Work Requests, including written justification and cost analysis for each contract modification. These contract modifications shall be delivered to Buckeye Land Management, Inc. for approval. After approval, the CONSULTANT shall obtain the CONTRACTOR'S signature, and return the forms to Buckeye Land Management, Inc. for final execution.

Any contract modification which involves a change to the approved project design or specifications shall be approved by the Design Engineer and ADOT prior to initiation of the modification. The final contract modification shall be approved and signed by the ADOT District Engineer.

Buckeye Land Management, Inc. shall be available, on request, to assist the CONSULTANT with the preparation of Change Orders, Force Accounts, Monthly Estimates, etc. This assistance will be considered an informational service only to explain the flow of paperwork and the continuity of the work. The CONSULTANT will be expected to follow-up on the paperwork flow in an expeditious manner to avoid any delays in timely submittals of documentation (i.e. mix design submittal, claim specifications, etc.), correspondence, conducting of meetings, and transmittal of responses to the CONTRACTOR required to meet time constraints of the project. If, in the opinion of Buckeye Land Management, Inc., the administrative requirements of this contract are not being met, written notification will be given to the CONSULTANT outlining these concerns and the necessary requirements to stay on schedule. After written notification is presented and administrative requirements are still not being met, the retention of future CONSULTANT billings will be increased to twenty-five percent (25%) until requirements have been returned to acceptable practice.

CLAIMS

CONTRACTOR'S construction claims will be evaluated on an individual basis by Buckeye Land Management, Inc. to determine the extent of the CONSULTANT'S participation.

CONSTRUCTION COMPLETION ESTIMATES

When seventy-five percent (75%) of the contract time is used, the CONSULTANT shall advise Buckeye Land Management, Inc. if, in his opinion he can complete the project within the original time frame. If he feels he cannot, a detailed analysis outlining the time needed to complete the project must be submitted along with a request for an extension of time. This must be completed and received by Buckeye Land Management, Inc. prior to eighty percent (80%) of the contract time being used.

If no unusual delays are anticipated, the CONSULTANT shall submit the final estimate to ADOT within 30 days after the date of acceptance of the project by ADOT in accordance with Section 1316 of the Construction Manual.

If unusual delays are anticipated, notification should be given to Field Reports Branch according to Section 1316.03 of the Construction Manual. If after 60 days of the final acceptance of the project and Field Reports has not received the final project documentation, all costs incurred by the CONSULTANT will not be recoverable.

CERTIFICATION OF SUBSTANTIAL CONFORMANCE

At the end of the project construction, the CONSULTANT PROJECT MANAGER shall submit a signed certification that all work was completed in substantial conformance with the Plans and Specifications and that all payments were made for work performed at the bid prices agreed to in the CONTRACT. At this time a set of completed as-built plans shall be submitted by the CONSULTANT to Buckeye Land Management, Inc. and ADOT with the signature of approval from the RESIDENT ENGINEER.

APPENDIX A

SYSTEM FOR THE EVALUATION OF TESTING LABORATORIES

April 8, 1998

SCOPE OF SYSTEM

The Arizona Department of Transportation (ADOT) System for the Evaluation of Testing Laboratories has been implemented to formally qualify materials testing laboratories to perform testing activities for ADOT. On all projects advertised/awarded by ADOT, the materials testing laboratory must satisfy the criteria as specified below and be approved by ADOT Materials Group prior to performing materials testing activities for the department. For Certification Acceptance, projects that are advertised/awarded by a local government agency, AASHTO accreditation in applicable test methods is sufficient. Those laboratories submitting asphaltic concrete mix designs must also meet the requirements of Materials Group Policy and Procedure Directive No. 96-6 and be approved by the Materials Group Bituminous Engineer. Eligible laboratories will be periodically evaluated to verify compliance with the system. The system is administered by the ADOT Materials Group quality Assurance Section under authority delegated by the State Engineer. The procedure will apply to any laboratory performing testing activities for the Department, directly or as a subconsultant.

ADOT SYSTEM CRITERIA

The ADOT system acknowledges the mechanism for recognizing the competency of a testing laboratory to perform specific tests on construction materials established by the AASHTO Accreditation Program (AAP). AAP accreditation must be obtained for all AASHTO and ASTM test methods to be performed by the testing laboratory. For AASHTO/ASTM test methods, if the laboratory is AAP accredited for those tests and if the same AASHTO/ASTM test methods are successfully demonstrated to ADOT during inspection, then ADOT will approve those observed AASHTO/ASTM test methods. For Arizona test methods which are modifications of AASHTO/ASTM test methods, if the laboratory is AAP accredited for the AASHTO/ASTM test methods which are modified by Arizona test methods and if the Arizona test methods are successfully demonstrated to ADOT during inspection, then ADOT will approve those observed Arizona test methods. ADOT will also approve unique Arizona test methods successfully demonstrated to ADOT during inspection.

A copy of AAP accreditation certificates should be transmitted to the ADOT Materials Group Quality Assurance Engineer immediately upon receipt by the testing laboratory.

The following requirements are in addition to Section 2, AASHTO Accreditation Program Criteria, of the AASHTO Accreditation Program Procedures Manual:

2.1 Quality System Criteria is modified to add the following:

The laboratory shall have and maintain the current ADOT Materials Testing Manual. The manual shall be readily accessible to all laboratory personnel.

2.2 On-Site Inspection and Quality System Evaluation Criteria is modified to add the following:

For evaluation as an ADOT approved laboratory, the following permanently-based lab facilities will be subject to inspection by ADOT at regular time intervals:

1. Any AASHTO accredited independent lab operating within Arizona or within 50 miles of Arizona borders.
2. Any satellite*, of an out-of-state AASHTO accredited lab, that is operating within Arizona or within 50 miles of Arizona borders.

*"Satellite" laboratory facilities are permanently-based lab facilities working under the authority, and AASHTO accreditation of a main lab facility.

Any portable lab facility belonging to and ADOT approved lab will be subject to inspection by ADOT on a project-by-project basis.

ADOT inspection is required for any satellite or portable laboratory contracted to do verification (acceptance) testing on an ADOT project. For satellite or portable laboratories performing contractor quality control testing not used in the acceptance decision on an ADOT project, inspection by ADOT is at the discretion of the Resident Engineer. At least 10 days prior to any phase of construction requiring materials testing by the laboratory, the Resident Engineer shall notify the ADOT Materials Group Quality Assurance Engineer in writing to request inspection of a satellite or portable laboratory. Satellite or portable laboratories contracted to do materials testing on ADOT projects shall be set up and available for inspection by ADOT at least 5 days prior to any phase of construction requiring materials testing by the laboratory. The lab must be completely equipped for all phases of project-related testing.

The laboratory shall have written policy and procedures, as an addendum to their AAP Quality Systems Manual, that are acceptable to the Department, to assure portable and satellite laboratory facilities performing testing activities on ADOT projects are capable of providing testing services in compliance with applicable test methods. The policy and procedures should address inspection and calibration of testing equipment as well as a correlation testing program between the accredited laboratory and portable or satellite facilities.

The laboratory shall be open for inspection by Arizona Department of Transportation personnel at anytime. The laboratory shall demonstrate, during periodically scheduled on-site equipment and procedural inspections conducted by the ADOT Materials Group Quality Assurance Section, the capability to perform tests according to the current ADOT Materials Testing Manual for those testing services offered under the scope of this system. A written response to any deficiencies noted during the inspections shall be submitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of notification. Failure to respond to noted deficiencies within the 30 day limit will be grounds to negate ADOT approval.

Copies of AMRL and CCRL inspection reports and responses to any deficiencies shall be transmitted to the ADOT Materials Group Quality Assurance Engineer within 60 days of receipt of the inspection report.

2.3 Proficiency Sample Criteria is modified to add the following:

The laboratory shall participate in the ADOT proficiency sample program, performing at least those test methods for which ADOT approval has been granted. A written response to any deficiencies shall be submitted to the ADOT Materials Group Quality Assurance Engineer within 30 days of notification. Failure to test more than 2 consecutive proficiency samples that the lab is equipped to perform will be grounds to negate ADOT approval. Failure to respond to deficiencies within the 30 day limit will be grounds to negate ADOT approval.

Copies of AMRL and CCRL proficiency sample test result reports and responses to deficiencies shall be mailed to the ADOT Materials Group Quality Assurance Engineer within 60 days of receipt of the final report.

2.5 Personnel Qualification Criteria is modified to add the following:

An individual who is **responsible for supervising sampling and testing** shall meet the requirements given in Table 1 for the appropriate field in which sampling and testing is being performed.

An individual who **performs actual sampling and testing** shall meet the requirements given in Table 2 for the appropriate field in which sampling and testing is being performed.

**TABLE 1
SUPERVISOR REQUIREMENTS**

Soils and Aggregate	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Institute (ATI) "Field" certification required plus one of (a) through (g) below.	Arizona Technical Institute (ATI) "Soils/Aggregate" certification required plus one of (a) through (g) below.
Asphaltic Concrete	
<u>Field</u>	<u>Laboratory</u>
Arizona Technical Institute (ATI) "Field" certification required plus one of (a) through (g) below.	One of (a) through (g) below.
Concrete	
American Concrete Institute (ACI) "Concrete Field Testing Technician Grade I" certification plus one of (a) through (g) below.	
<ul style="list-style-type: none"> a. Professional Engineer, registered in the State of Arizona, with one year of highway materials testing experience acceptable to the Department. b. Engineer-In-Training, certified by the State of Arizona, with two years of highway materials testing experience acceptable to the Department. c. Obtained a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, Construction, or related field acceptable to the Department; and with three years of highway materials testing experience acceptable to the Department. d. Certified by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing Field as an Engineering Technician (Level III) or higher in the appropriate subfield in which sampling and testing is being performed. e. Certified by NICET in the Transportation Engineering Technology field as an Engineering Technician (Level III) or higher in the Highway Materials subfield. f. Certified by NICET as an Engineering Technician, or higher, in Civil Engineering Technology with five years of highway materials testing experience acceptable to the Department. g. An individual with eight years of highway materials testing and construction experience acceptable to the Department. 	

TABLE 2 TECHNICIAN REQUIREMENTS	
Soils and Aggregate	
<u>Field</u> Arizona Technical Institute (ATI) "Field" certification.	<u>Laboratory</u> Arizona Technical Institute (ATI) "Soils/Aggregate" certification.
Asphaltic Concrete	
<u>Field</u> Arizona Technical Institute (ATI) "Field" certification.	<u>Laboratory</u> Certified by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing field as an Associate Engineering Technician (Level II) or higher in the Asphalt subfield.
Concrete	
American Concrete Institute (ACI) "Concrete Field Testing Technician Grade 1" certification.	

2.5 Additional General Criteria is modified to add the following:

Copies of notification to AASHTO of changes in laboratory ownership, location, or managerial personnel shall be transmitted to the ADOT Materials Group Quality Assurance Engineer within 60 days of when the change occurs. ADOT should also be notified within 30 days of changes in supervisory and key technical personnel.

To be eligible to perform referee testing on ADOT projects as an independent testing laboratory, the laboratory must provide proof to the Department of their independent status by submitting a letter to the ADOT Materials Group Quality Assurance Engineer indicating all individuals and corporations which have ownership of the laboratory. In addition, the letter must indicate that each of the owners of the laboratory is devoid of any ownership in contracting firms or materials suppliers who perform work for the Department.

Douglas A. Forstie
Assistant State Engineer
Materials Group

APPENDIX B

Testing Requirements

All tests as required are to be performed on a daily basis, or as otherwise directed by Buckeye Land Management, Inc.

All test performed by the CONSULTANT'S laboratory shall be completed and reported to Buckeye Land Management, Inc. within the time guidelines given herein.

All tests must be run in accordance with the appropriate test procedures as required in the various project contract documents.

Test results shall be reported to Buckeye Land Management, Inc. within one working day (8 working hours) after the results have been obtained by the lab.

Typical anticipated times, upon receipt of sample, are shown below for selected test:

TEST	TIME (Working Hours)
Sieve Analysis & plasticity index	12 Hours
Asphalt Viscosity	12 Hours
Concrete Cylinder Breaks	4 Hours
Asphaltic Concrete (including Marshall density, moisture, Nuclear Asphalt Content Determination, extraction, sieve analysis, and voids analysis)	12 Hours
Steel Strength (Tensile)	4 Hours
Proctor Density (5 point)	12 Hours
Mineral Aggregate Gradations	4 Hours
Aggregate Base Gradations	4 Hours
individual listed in (f) or (g) above.	

2.5 Additional General Criteria is modified to add the following:

Copies of notification of AASHTO of changes in laboratory ownership, location, or managerial personnel shall be transmitted to the ADOT Materials Section Quality Assurance Engineer with 60 days of when the change occurs. ADOT should also be notified within 30 days of changes in supervisory and key technical personnel.

EXHIBIT B

AGREEMENT JPA 01-129

Plan Documents

- Drainage Report
- Geotechnical Report
- Materials Design Memorandum
- Pavement Design Summary
- Construction Plans Including:
 1. Roadway Plans and Profiles
 2. Detail Sheets
 3. Drainage Plans and Profiles
 4. Construction Sequence and Traffic Control Plans
 5. Pavement Marking Plans
 6. Signing Plans
 7. Retaining Wall Plans
 8. Cross-Sections
 9. Quantities
 10. Cost Estimates
 11. Special Provisions
- Right of Way Plans, legal descriptions, and land transfer documents
- Clearances including:
 1. Environmental Clearance
 2. Utility Clearance
 3. Right of Way Clearance
 4. Project Plans Approval

EXHIBIT C

AGREEMENT JPA 01-129

Construction Administration Scope of Work



SCOPE OF WORK

TRACS No.: 010 MA 117 H5549 01C

STP-010-B 502

EHRENBURG-PHOENIX HIGHWAY

Watson Road/Interstate 10

New Traffic Interchange Improvements

RBF CONSULTING
16605 N. 28TH AVENUE
SUITE 100
PHOENIX, ARIZONA 85053

SEPTEMBER, 2001

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SECTION 100 - GENERAL INFORMATION

NOTE: This scope of work is presented in two (2) parts. The Project Scope of Work is contained in this section. It includes information specific to this project.

The section Dictionary of Standardized Work Tasks is presented as a section within the Scope of Work. It includes information that is common to all consultant design contracts. The work described in Dictionary of Standardized Work Tasks is required for this project.

110 Location

The Ehrenberg-Phoenix Highway (Interstate 10) is a controlled access four (4) lane divided highway that traverses through the northerly portion of the Town of Buckeye within western Maricopa County. The proposed traffic interchange is located at approximately Milepost 117, which is 2 miles east of the existing traffic interchange at Miller Road. This freeway is part of the Maricopa Association of Governments (MAG) Regional Freeway System and has been included as a part of the MAG Transportation Improvement Plan (TIP) for 2002.

120 Description

Improvements to Watson Road and a new traffic interchange at I-10 have been proposed to facilitate the regional flow of traffic in the town of Buckeye and the surrounding developing areas including the Sundance Master Planned Community. The specific objective of this project is to provide an interchange with the capacity to accommodate projected future traffic volumes and the characteristics to operate safely and efficiently beyond the Year 2020, when the build-out of the Sundance Master Planned Community and other developments in the area are achieved.

The project consists of improving Watson Road under the existing I-10 bridges and constructing four (4) ramps connecting I-10 in each direction to Watson Road. The Watson Road improvements will be extended southerly to Yuma Road as a separate project in conjunction with the Sundance Development. Improvements to Watson Road northerly of I-10 will terminate adjacent to northerly right of way limit for I-10.

Improvements to the existing I-10 bridges over Watson Road are not anticipated and are not a part of this project. Each bridge currently carries two (2) lanes of traffic.

The initial construction for each on-ramp will provide for parallel deceleration and acceleration lanes, future ramp metering and high occupancy vehicle (HOV) entrances. The ramp intersections with Watson Road will not be signalized at this time. However, the intersections may be signalized in the future (when warranted) to accommodate forecasted traffic volumes.

During construction, traffic will be maintained on I-10. Shoulder closures will be used to construct the connection of the ramps to I-10. Traffic control will be coordinated with ADOT to ensure minimal disruption to the traveling public.

Drainage currently passes through the project site via overland flow combined with a series of pipe culverts. A storm drain system is proposed that will consist of subsurface

pipings, catch basins and extensions to the existing culverts. It is intended to collect flows within the interchange area and convey them to a retention basin that will be constructed off-site (in the southwest quadrant of the Watson Road/I-10 Interchange).

Watson Road will be improved in phases to allow local traffic access to the homes north of I-10 during construction of the interchange.

Intermittent lane closures may be needed along I-10 to facilitate construction of the interchange.

Coordination will be required with federal, state and local agencies including FHWA, ADOT, the Town of Buckeye and MCDOT. The Consultant will also be required to coordinate and resolve utility conflicts with affected utility companies; coordinate with adjacent design consultants and coordinate with the ADOT Project Team during the project.

130 Purpose

The project involves the preparation of final plans, specifications, estimates, and associated documents necessary for the construction of the Watson Road/I-10 interchange and associated facilities. These improvements will allow the local and regional transportation system to meet the projected traffic demand caused by new development which will occur in the immediate area of the traffic interchange.

140 Construction Cost

This project has been approved by the Transportation Board and is included in the five-year construction program. Funds have been allocated in the amount of \$2,568,700 for FY 2002. This project has been advanced by an Intergovernmental Agreement with Buckeye Land Management, Inc. (a private developer) and ADOT to complete the construction of this freeway segment by December 2002.

150 Organization

Buckeye Land Management, Inc. has retained RBF Consulting (hereinafter known as "Consultant") to perform a variety of engineering services for the Watson Road TI Project. ADOT has retained an environmental consultant to perform the environmental evaluation of the proposed improvements.

160 Length of Services

The Consultant's length of service to complete the design work shall be two hundred seventy five (275) calendar days from Notice-to-Proceed, including all reviews by the project team members and involved agencies.

170 Schedule

It is the intent to issue a Notice-to-Proceed for construction on or about June 1, 2002. The bid advertisement for the construction package shall be no later than April 15, 2002.

171 Project Schedule

The Consultant shall submit an initial schedule for ADOT review within twenty-one (21) calendar days after receiving Notice-to-Proceed on the design of the project. The proposed schedule shall be compatible with the ADOT scheduling models. ADOT will provide activity codes and/or models to Consultant for use in preparation of the project design schedule. The schedule submitted shall be customized to reflect the exact needs and requirements of this project. The Primavera format is recommended in order to be compatible with the ADOT scheduling system.

172 Project Schedule Updates

The Consultant shall submit monthly updates to the approved schedule by the 18th of the month. The schedule shall include a summary of milestones. If the milestones show negative float, the Consultant shall include a narrative of corrective actions to put the design schedule back on time for delivery.

Updates shall be provided on disk to the ADOT Project Manager. A "hard copy" report may also be provided as requested by the ADOT Project Manager.

173 Monthly Progress Meetings

The Consultant shall arrange and attend regularly scheduled monthly progress meetings with the ADOT Project Manager and the project team members. The Consultant shall record "minutes" of the progress meetings for distribution to the team members within five (5) calendar days of the meeting. It is anticipated that nine (9) monthly progress meetings will be required for this project.

180 Responsibility Chart

Appendix B includes a chart which indicates the division of responsibilities between the Consultant, ADOT and other project stake holders. This chart is intended to serve as a "checklist". In the event of a conflict, the written Scope of Work shall take precedence over the responsibility chart.

190 Environmental Evaluation Checklist

The Final Environmental Determination is anticipated to be completed in early October 2001, and shall be used as a reference in preparing the final plans, specifications and estimates. Mitigation requirements identified in the Environmental Determination shall be incorporated into the project design.

SECTION 200 - DESIGN REFERENCES

Design references developed and published by ADOT and other agencies, and which are adopted by ADOT for use in the design of this project are listed in the ADOT Project Development Process Manual, and the ADOT Roadway Design Guidelines. The Consultant is advised that while possession of all of these documents is not necessary to successfully

complete the project, the Consultant is responsible for designing in accordance with the applicable documents and current revisions and supplements thereto.

The following document(s) will be produced for this project and will be provided by ADOT to the Consultant:

210 Miscellaneous Reports and Studies for this project

2.5 Final Environmental Determination – September 2001.

220 AASHTO Publications

ADOT references and publications shall control the work, and any necessary supplementation should be provided by appropriate AASHTO and/or FHWA references. The ADOT Project Manager will provide guidance and direction.

SECTION 300 - DESIGN CRITERIA

This project will be designed in English units. The design of this project and the preparation of contract documents will be guided by the Design Criteria presented in the ADOT Roadway Design Guidelines Manual. This document was prepared to establish uniform design policies, procedure design guidelines, and criteria. Deviation from the policies and criteria may be permitted with the approval of ADOT.

301 Supplemental Design Criteria

The design criteria listed in this section and the Project Design Guidelines may be supplemented by Project Design Memoranda provided by ADOT during the course of the project.

310 General

The following design controls apply to Watson Road:

- | | | |
|----|------------------------|---------------------------|
| A. | Design Year - | 2020 |
| B. | Design Speed - | 50 mph |
| C. | Superelevation - | 0.06ft/ft max. |
| D. | Slope Standards - | ADOT Standard C-02 Series |
| E. | Pavement Design Life - | Twenty (20) years |
| F. | Roadway Width - | 64 feet |
| G. | Lane Width - | 12 feet |
| H. | Left Turn Lane Width - | 12 feet |

- I. Shoulder Width - 2 feet
- J. Sidewalk Width - 5 feet
- K. Cross-Slope - 0.02ft/ft
- L. Vertical Clearance - 15'-6"

The following design controls apply to the I-10 Traffic Interchange ramps at Watson Road:

- A. Design Year - 2020
- B. Design Speed:
 - Nose of Gore - 65 mph
 - Ramp Body - 50 mph
 - Ramp Termini - 40 mph
- C. Superelevation - 0.06ft/ft max.
- D. Slope Standards - ADOT Standard C-02 Series
- E. Pavement Design Life - Twenty (20) years
- F. Roadway Width:
 - Exit Ramp - 22 feet
 - Entrance Ramp - 28 feet
- G. Maximum Curvature - 4 degrees
- H. Maximum Gradient - 3%
- I. Cross-Slope - 0.02ft/ft

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for the design work and preparation of construction documents as outlined in this section and the standard design tasks listed in the Dictionary of Standardized Work Tasks.

The Consultant shall perform all work in accordance with the most current policies and procedures, unless otherwise directed by the ADOT Project Manager.

401 Design Features

A diamond traffic interchange configuration will be constructed at Watson Road and I-10. All ramps will be designed as a parallel type entrance or exit ramps. Watson Road will be improved and widened to match the new crossroad alignments, interchange geometrics and to provide the turning lanes necessary to satisfy the traffic operational requirements

for the interchange. The existing I-10 bridges over Watson Road will remain as is with no modification as a part of this project.

Coordination will be required with federal, state and local agencies including FHWA, ADOT, the Town of Buckeye and MCDOT. The Consultant will also be required to coordinate and resolve utility conflicts with affected utility companies; coordinate with adjacent design consultants at the interface locations; and coordinate with the ADOT Project Team during the project.

405 AASHTO DESIGN CRITERIA REPORT - Not Applicable

410 SURVEYS AND MAPPING

The photogrammetric survey and mapping for this project will be provided by the Consultant using the NAD 1983 and NAVD 1998 datums. All information will be developed in English units.

The Consultant shall provide a DTM to prepare roadway cross-sections and drainage cross-sections. The technical requirements of ADOT are as specified in Section 200, Design References, of this Scope of Work.

The Consultant shall obtain topographical surveys necessary to complete the project design. The Consultant shall obtain any permits (e.g. ADOT District, Town of Buckeye, MCDOT, etc.) which may be required prior to beginning field work. A traffic control plan may be required by each agency to obtain a permit for this survey work.

The Consultant shall be responsible for confirming the R/W limits shown with the Stage II (30%) documents within sixty (60) calendar days after Notice-to-Proceed.

The Consultant shall not be responsible for setting R/W markers. The Consultant shall note the locations in the project plans. The Contractor shall set the markers during the construction project. The horizontal and vertical datum should be consistent between the construction plans and the right-of-way plans.

415 MATERIALS DESIGN

416 Geotechnical Report

An extensive geotechnical investigation will be required for final design purposes. The Consultant or its subconsultant shall perform the geotechnical investigations necessary to prepare a Final Geotechnical Report, Final Pavement Design Summary and Final Materials Memorandum.

417 Earthwork

This project will require import borrow to construct the interchange. The import material is anticipated to be obtained from the Sundance Master Planned Community which is adjacent to this project.

420 ENVIRONMENTAL STUDIES

ADOT is currently completing the Final Environmental Determination which is anticipated to be completed in early October 2001. The Consultant shall be responsible for incorporating any mitigation measures which are mentioned in the Final ED into the design of the project. The Consultant should refer to the Final ED for further information. Activities (i.e., geotechnical investigations, survey, etc.) that require soil or vegetation disturbance may not begin until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or biological evaluations) has been obtained by ADOT. ADOT's Environmental Planning Section, in cooperation with the affected federal, state or local agency, will issue the required clearance.

430 UTILITIES AND RAILROADS

During preparation of the Design Concept Report (DCR), all known utility companies within the project area were contacted by the Consultant to determine existing utility locations and potential relocation concepts. As a part of the final design, the Consultant shall verify and finalize all utility conflicts and utility relocations.

The Consultant shall invite the utility owners (as appropriate) to participate in the monthly project meetings. The Consultant shall also coordinate with and inform the utility companies of the permits and licenses required by ADOT and other agencies necessary to complete the utility relocations.

All utility "pothole" work shall be completed by the Consultant subsequent to obtaining an ADOT permit to do the traffic interchange work.

440 ROADWAY DESIGN

The Consultant shall prepare plans and documents for construction of all roadway elements, improvements and detour construction. It is anticipated that the following roadway plan sheets will be required for the Watson Road /I-10 Interchange project:

Description	Number of Sheets
Face Sheet	1
Design Data Sheet	1
Typical Sections	3
Barrier Summary Sheet	1
Detail Sheets	4
Existing Condition Plan (Demolition Plan)	5
Geometric Layout Plan	5
Geometric Data Summary Sheets	2
I-10 Ramp Plan Sheets	5
I-10 Ramp Profile Sheets	2
Gore Staking Plans	2

Watson Road Plan Sheets	2
Watson Road Profile Sheets	2
Total Roadway Plan Sheets	35

447 **RETAINING WALL DESIGN**

The Consultant shall design and prepare construction plans for the new retaining walls which are adjacent to Watson Road and under the I-10 bridges.

The Consultant shall design and prepare construction plans for retaining walls in accordance with current ADOT policies and procedures.

It is anticipated that the following retaining wall plan sheets will be required for the Watson Road /I-10 Interchange project:

Description	Number of Sheets
Retaining Wall Plan Sheets	2
Retaining Wall Profile Sheets	2
Structural Detail Sheets	3
Total Retaining Wall Plan Sheets	7

450 **ROADWAY DRAINAGE DESIGN**

The Consultant shall prepare the on-site and off-site drainage design in accordance with the Stage II (30%) plans, Preliminary Drainage Report, and ADOT review comments received during the Stage II (30%) review period.

The freeway on-site drainage system shall be designed to account for the ultimate freeway condition which may include a paved median separated with a concrete median barrier. The storm drain system shall be designed for the interim and ultimate freeway conditions to ensure the ultimate drainage system can be implemented with minimum reconstruction.

It is anticipated that the following roadway drainage plan sheets will be required for the Watson Road /I-10 Interchange project:

Description	Number of Sheets
Pipe Summary Sheet	1
Storm Drain Plan Sheets	2
Storm Drain Profile Sheets	8
Pipe Culvert Detail Sheet	1
Pipe Extension Detail Sheets	8
Pipe Extension Summary Sheets	2
Stormwater Pollution Prevention Plans	10
Total Drainage Plan Sheets	32

453 Section 404 Permit

The proposed construction activities will not involve the discharge of dredged or fill material into waters of the United States, therefore a Section 404 Permit or Section 401 Water Quality Certification is not required for this project.

455 LANDSCAPE ARCHITECTURAL DESIGN AND EROSION CONTROL DESIGN

The Consultant shall coordinate with ADOT Roadside Development Section to ensure pipe sleeves are installed to support future landscape irrigation requirements for the project. The Consultant shall coordinate with ADOT Roadside Development Section to determine required locations for electrical and water service for future freeway landscaping needs.

The Consultant shall prepare temporary and permanent erosion control plans, specifications and estimates in accordance with ADOT requirements as identified in the Dictionary of Standardized Work Tasks.

The Consultant shall prepare the Storm Water Pollution Prevention Plan (SWPPP) in accordance with ADOT requirements as identified in the Dictionary of Standardized Work Tasks.

460 TRAFFIC ENGINEERING DESIGN

461 Traffic Data - Not Applicable

462 Traffic Control Plans

The Consultant shall prepare traffic control plans at locations where the construction of the freeway improvements interface with the traveling public. It is anticipated that the following traffic control plan sheets will be required for the Watson Road /I-10 Interchange project:

Description	Number of Sheets
Traffic Control Plan Sheets	5
Total Traffic Control Plan Sheets	5

463 Roadway Lighting and Intersection Signalization - Not Applicable

Although roadway lighting and traffic signals are not a part of this project, the Consultant shall include underground conduits and pull boxes to support the future traffic signals.

464 Ramp Metering

Although ramp metering is not a part of this project, the Consultant shall include underground conduits and pull boxes to support the future ramp metering.

465 Signing and Pavement Marking Plans

The Consultant shall prepare signing and pavement marking plans for Watson Road and Interstate State 10 within the project limits. The Consultant shall coordinate with ADOT Traffic Design Section to ensure the signing plans are prepared in accordance with the most current policies and procedures. Any new signs not shown in the ADOT Manual of Approved Signs will be detailed in the plans. It is anticipated that the following signing and pavement marking sheets will be required for the Watson Road /I-10 Interchange project:

Description	Number of Sheets
Signing Plans (Notes and Details)	7
Pavement Marking Plans (Notes and Details)	7
Total Signing/Pavement Marking Plan Sheets	14

470 RIGHT-OF-WAY

471 Develop Requirements

The Consultant shall submit preliminary right of way plans within sixty (60) days of Notice to Proceed with the design of the project. Final right of way plans shall be completed and submitted concurrent with the Stage II submittal.

ADOT owns (in fee) all of the right of way necessary to construct the project. This includes not only existing freeway right of way but also adjacent parcels that ADOT owns north of the interchange. On the southerly side of the project, no adjustment is needed to existing right of way. However, on the northerly side of the project, the freeway right of way will need to be adjusted to accommodate the new ramps. This adjustment will require that ADOT designate a portion of the adjacent parcels as freeway right of way.

No revisions or additions in the new right-of-way limits and easement requirements, as shown in the Stage II (30%) submittal, will be allowed without the approval of the ADOT Project Manager. Within sixty (60) days of Notice-to-Proceed, the Consultant shall confirm the right-of-way limits shown in the Stage II (30%) documents.

472 Right of Way Maps and Legal Descriptions/Exhibits

The Consultant shall prepare a plan of sufficient scale and detail to show the existing and proposed right of way and proposed slope easements, drainage easements, and construction easements required. A letter indicating the project name, contract number, project location, firm name, submittal type and type of acquisition required. If legal descriptions and exhibits are necessary for the acquisition of the required easements the Consultant can prepare these easement legal descriptions and exhibits as an amendment to this Scope of Work.

495 CONTRACTS AND SPECIFICATIONS PROCESS

The Consultant shall coordinate with Buckeye Land Management, Inc., ADOT Contracts and Specifications Section and the ADOT Project Manager to develop the construction documents and direct the project bid advertisement and contractor selection process to conform to Arizona Statutory requirements for a publicly advertised and bid project. This project will be advertised for construction bids by Buckeye Land Management, Inc. in accordance with ADOT policies and procedures.

Upon contractor selection, the Consultant shall complete the contractor recommendation forms necessary for concurrence by the State Transportation Board.

SECTION 700 - MATERIALS FURNISHED BY ADOT

750 Environmental Studies

A Final Environmental Determination (ED) is being completed for this project which is anticipated to be completed in early October 2001. ADOT will provide a copy of the Final Environmental Determination to the Consultant.

APPENDIX 1 LOCATION MAP

APPENDIX 2

RESPONSIBILITY CHART

Page 1 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
A		AERIAL MAPPING	410			
	1.	Geodetic Control		X		
	2.	Photogrammetric Control & Panels		X		
	3.	Aerial Photography		X		
	4.	Plotter Compilation		X		
		a. Planimetric Map		X		
		b. Contour		X		
		c. Topographic Map		X		
		d. Orthophoto Map		X		
B		CONTROL SURVEYS	410			
	1.	Geodetic Control		X		
	2.	Horizontal		X		
	3.	Vertical		X		
	4.	Topographic Map		X		
	5.	Utility Locations		X		
	6.	Right-of-Way				
		a) Section Corner Ties & Land Ties		X		
		b) New R/W Monumentation		X		
	7.	Roadway Cross Sections		X		
	8.	Drainage Cross Sections		X		
	9.	Structures Surveys		X		
C		ENVIRONMENTAL	420			
	1.	Environmental Analysis Document			X	
	2.	Air Quality Technical Report			X	
	3.	Noise Analysis Technical Report	422		X	
	4.	Cultural Resources Survey			X	
	5.	Visual Impact Analysis			X	
	6.	Biological Evaluation			X	
	7.	Hazardous Materials Survey	429		X	
D		MATERIALS INVESTIGATION	415			
	1.	Provide Soil Survey	416	X		
		a. Geotechnical	416	X		
		b. Roadway	416	X		

APPENDIX 2 RESPONSIBILITY CHART

Page 2 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
		c. Lateral Ditches	416	X		
		d. Earthwork	417	X		
	2.	Provide Retaining Wall Foundation Investigation	416	X		
	3.	Provide Testing and Analysis	416	X		
	4.	Provide Pavement Design	419	X		
	5.	Materials Memorandum	419	X		
E		DESIGN TRAFFIC DATA	460			
	1.	Gather Statistics	461			
		a. 2-Way ADT				
		b. 24 Hour Traffic Counts				
	2.	Prepare Traffic Data Sheets	461			
	3.	L.O.S. Analysis	461			
	4.	Traffic Control Plan	462	X		
F		RIGHT-OF-WAY	470			
	1.	Develop Requirements	471	X	X	
	2.	Secure Title Search	472		X	
	3.	Prepare R/W Plans and Legal Descriptions	472	X		
	4.	Prepare Transfer Documents	472		X	
	5.	R/W Cost Estimates	472		X	
	6.	Clearance Letter	472		X	
G		CONSTRUCTION PLANS				
	1.	Plot Design Survey	410	X		
	2.	Roadway Plans	440	X		
	3.	Retaining Wall Plans	445	X		
	4.	Roadway Drainage Design	450	X		
	5.	Traffic Control Plans	462	X		
	6.	Signing & Pavement Marking Plans	465	X		

APPENDIX 2

RESPONSIBILITY CHART

Page 3 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
	7.	Utility Adjustment Plans	433	X		X
	8.	Maintenance of Traffic Requirements	462	X		
	9.	Freeway Protection (CSA) Design	450	X		
	10.	Landscape Architectural Design	455		X	
H		BRIDGE STRUCTURES	445			
	1.	Retaining Wall Plans	445	X		
I		SECTION 404 PERMIT	453			
	1.	Coordinate with Permitting Agencies			X	
	2.	Prepare Permit Application			X	
		a. Forms			X	
		b. Sketches			X	
		c. Supporting Documents			X	
	3.	Process Permit Application			X	
J		UTILITY & RAILROAD	430			
	1.	Utilities Conflict Identification	431	X		
	2.	Conduct Utility Pre-Design	431	X		
	3.	Review Utility Adjustment Plans	432	X		
	4.	Secure Utility Relocation Schedule	433	X		
	5.	Secure Utility Agreements	434		X	
	6.	Prior Rights Information	431	X		
	7.	Clearance Letter	434		X	
K		COST ESTIMATES	480			
	1.	Prepare Construction Cost Estimates		X		
	2.	Prepare Retaining Wall Cost Estimates		X		
	3.	Prepare R/W Cost Estimate			X	
L		SPECIAL PROVISIONS	490			
	1.	Roadway Construction Plans		X		
	2.	Retaining Wall Plans		X		
	3.	Traffic Plans		X		
	4.	Drainage Plans		X		
	5.	Roadside Development Plans		X		
	6.	Freeway Protection (CSA) Plans		X		
	7.	Utility Plans		X	X	

APPENDIX 2 RESPONSIBILITY CHART

Page 4 of 4

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
M		CONTRACTS AND SPECIFICATIONS PROCESS (PS&E)	490			
	1.	Respond to questions on Final Plans		X		
	2.	PS&E Revisions		X		
	3.	Addenda to PS&E, as required		X		
	4.	Preparation for Pre-bid Conference		X	X	
	5.	Attend Pre-bid Conference		X	X	
N		POST DESIGN SERVICES	600			
	1.	Respond to questions on project under construction		X		
	2.	Review and approve shop drawings		X		
	3.	Provide contact person		X		
P		SUBMITTAL REVIEWS	1060			
	1.	Roadway Construction Plans Review		X	X	X
	2.	Bridge Construction Plans Review		X	X	X
	3.	Stage I Design Submittal	1062	X	X	X
	4.	Stage II Design Submittal	1063	X	X	X
	5.	Stage III Design Submittal	1064	X	X	X
	6.	Stage IV Design Submittal	1065	X	X	X
	7.	Final Design Submittal	1066	X	X	X

The following is the distribution of reports, plans, estimates and special provisions as specified in Paragraph 1060.E of the Scope of Work.

APPENDIX 3

DISTRIBUTION LIST

Page 1 of 2

PLANS - SPECIAL PROVISIONS - COST ESTIMATES (Stage I, II, III & IV)

Location	Title	No. of copies
Bridge Group	Bridge Design Leader	1
Contracts & Specifications	Transportation Engineer	1
Phoenix Construction District	District Engineer	2
Phoenix Construction District	Resident Engineer	1
Phoenix Construction District	Regional Traffic Engineer	1
Environmental Planning	Manager	1
FHWA	Area Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Materials Geotechnical Design Section	Geotechnical Section Engineer	1
Valley Right-of-Way Proj. Mgmt.	Liaison	1
Roadside Development	Manager	1
Roadway Design Section	Engineer-Manager	1
Valley Project Mgmt Section	Project Manager	1
Traffic Design	Traffic Engineer	1
Traffic Electrical Design	Traffic Engineer	1
Drainage Design Section	Engineer – Manager	1
Utilities & Railroad	Engineer-Manager	1
Town of Buckeye	Design Coordination Engineer	2
MCDOT	Project Manager	2
General Consultant	Project Manager	1
Utility Companies	Utility Coordination	Varies
CROSS SECTIONS		
Phoenix Construction District	District Engineer	1
Phoenix Construction District	Resident Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Materials Geotechnical Design Section	Geotechnical Engineer	1
Valley Project Mgmt Section	Project Manager	1
MCDOT	Project Manager	1
Town of Buckeye	Coordination Engineer	1
Utility Companies	Utility Coordination	Varies

APPENDIX 3
DISTRIBUTION LIST
Page 2 of 2

Location	Title	No. of copies
AASHTO REPORT		
Roadway Group	Assistant State Engineer	N/A
Valley Project Mgmt Section	Project Manager	N/A
DRAINAGE REPORT		
Drainage Design Section	Engineer - Manager	2
Phoenix Construction District	District Engineer	1
Roadway Design Section	Engineer-Manager	1
Valley Project Mgmt Section	Project Manager	1
MCDOT	Project Manager	1
General Consultant	Project Manager	1
Town of Buckeye	Coordination Engineer	1
FOUNDATION REPORT		
Bridge Group	Bridge Technical Leader	2
Materials Geotechnical Design Section	Geotechnical Section Engineer	3
Phoenix Construction District	District Engineer	1
Valley Project Mgmt Section	Project Manager	1
GEOTECHNICAL REPORT		
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Materials Geotechnical Design Section	Geotechnical Section Engineer	3
Phoenix Construction District	District Engineer	1
Valley Project Mgmt Section	Project Manager	1
Utility Companies	Utility Coordination	Varies
MATERIALS DESIGN REPORT/PAVEMENT DESIGNS		
Contracts & Specifications	Transportation Engineer	1
Phoenix Construction District	District Engineer	1
Phoenix Construction District	Resident Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	3
Materials Geotechnical Design Section	Geotechnical Section Engineer	1
Roadway Design Section	Engineer-Manager	1
Valley Project Mgmt Section	Project Manager	1

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
VALLEY PROJECT MANAGEMENT GROUP

(APPENDIX 4)
DICTIONARY
OF
STANDARDIZED WORK TASKS

September 2001

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1065	Stage IV Submittal	2.55
1066	Final Submittal	2.57

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for providing the engineering services required to accomplish the work products identified in the Project Scope of Work. The services may include the tasks of data preparation, data interpretation, and document preparation including contract plans, special provisions and construction cost estimate.

405 AASHTO DESIGN CRITERIA REPORT

Any changes to the design criteria which result in the need for a design exception shall be submitted to the Roadway Group for approval. The request shall describe the deficiencies, and the justification for the design exception. The report shall be developed consistent with Section 200. ADOT will forward the design exception request to FHWA, if necessary. The Consultant is responsible for providing copies for ADOT and FHWA. The request shall be submitted a minimum of fifteen (15) calendars days prior to the Stage II design submittal, in accordance with Section 1060.

410 SURVEYS AND MAPPING

The Consultant shall review data provided by ADOT. Any field surveys required shall be suitable for contract documents preparation and meet the technical requirements of ADOT and the State Board of Technical Registration.

2.5 All surveys and mapping for projects utilizing existing roadway(s) shall be referenced directly to the existing as-built roadway centerline. The centerline shall be re-established in its original position by locating, marking, staking and referencing the PC, PT, TS, SC, CS, ST, PI (if possible), and a minimum of fifty (50) feet station intervals along the curves and one hundred (100) feet station intervals on tangents. The use of offset baselines for re-establishing or defining the existing centerline is not permitted unless approved in advance by ADOT. The centerline stationing of the project shall be on ADOT's established field stationing.

2.5 Completed surveys shall be submitted in permanently bound books (3-ring binders are not acceptable) with the final plans. The surveys shall include locations, stakes and references of control points, (including the beginning and ending points of the project), PC's, PT's and PI's (if possible) of curves, POT's with a maximum interval of one thousand (1,000) feet, and bench marks on alternate sides of the roadway with a maximum interval of five hundred (500) feet. Any survey data provided must be certified by an Arizona Registered Land Surveyor. Any coordinates used shall comply with the Arizona State Plane Coordinate System.

2.5 Surveys may include, as applicable:

2.5.1 Base line control

2.5.1 Control for aerial mapping

2.5.1 Right-of-way surveys

1. Section Corner and Land Ties

2. Existing Right of Way Monumentation
3. Staking of New Right of Way for Appraisal Purposes
4. New Right of Way Monumentation
5. A "Results of Survey" map

2.5.1 Topographic surveys

2.5.1 Roadway drainage surveys

2.5.1 Utility locating - set control points with coordinates and elevations at five hundred (500) ft. maximum intervals adjacent to the road and along the utility lines (See Section 430)

2.5.1 Centerline staking, centerline of each roadway, as applicable for field review (lath stakes at PC, PI and PT's, at approximate two hundred (200) ft. intervals, and at selected locations if required to define the approximate limits of construction)

2.5.1 Centerline and edge elevations of existing pavement at fifty (50) ft. intervals

2.5.1 Ties to Arizona State Plane Coordinates

2.5.1 Final alignment staking

2.5.1 Crossroads tie-ins, turnouts and driveways

2.5.1 Above ground utilities including microwave towers and antennae.

2.5 The Consultant shall obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required. Preparation of surveys shall conform to applicable documents referenced in Section 200, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

2.5 Unless otherwise directed by the ADOT Project Manager, the Consultant shall be responsible for selecting a scale that results in good plan clarity. The following scales are suggested:

2.5.1 1" = 500' (Drainage map and R/W key sheet)

2.5.1 1" = 50' (Construction Plans and R/W maps)

2.5.1 1" = 20' (Intersections, urban streets, and other items of considerable detail)

2.5 The Consultant may be responsible for setting R/W markers. R/W markers shall be set by an Arizona Registered Land Surveyor after acquisition of R/W, or, in some instances, after construction. All R/W drawings and legal instruments shall be approved and sealed by an Arizona Registered Land Surveyor.

2.5 The Consultant may be responsible for delineating the R/W so that utility companies may prepare relocation plans. Delineation with strips of plastic

flagging attached to lath located at intervals shall provide a clear delineation of the R/W. This work shall be completed immediately prior to the date that utility company personnel are scheduled to conduct a field survey of the project.

- 2.5 Completed surveys and maps shall be recorded in an acceptable format. Upon final approval, the books, maps and CADD files, and other diskettes, shall be submitted to the ADOT project manager.

415 MATERIALS DESIGN

416 Geotechnical Investigation

Geotechnical requirements contained in the Materials Preliminary Engineering and Design (MPE&D) Manual and AASHTO Manual (Reference Section 200) on Subsurface Investigations shall be considered as minimum requirements. These are not intended to preclude innovative methods of Geotechnical investigations and testing that may be proposed by the Consultant. Laboratories selected by the Consultant to perform construction materials testing and analyses must meet the requirements of ADOT's "System for the Evaluation of Testing Laboratories." The Geotechnical Investigation will include appropriate reports, as required, for bridge and retaining/sound barrier wall designs and pavement design. Coordination with ADOT Material Geotechnical Section in developing recommendations is required.

- A. The Consultant shall perform a Geotechnical investigation of the project in accordance with the requirements of ADOT - the MPE&D and Materials Testing Manuals. (Reference Section 200).
- B. The Consultant shall secure an access permit from the appropriate agency, if required, which may at a minimum require the preparation of an equipment access plan, description of equipment types, a plan of the test hole locations, etc. The Consultant shall adhere to all traffic control requirements when taking samples on existing roadways. A traffic control plan may be required.
- C. The results of the Geotechnical investigation shall be contained in the Geotechnical Report and the Bridge Foundation Report, if applicable. The Geotechnical investigation shall include all necessary sampling and laboratory testing and analyses of materials.

Upon approval of the Geotechnical Report, the Consultant may proceed with preparation of the pavement and/or foundation designs and the Materials Design Memorandum.

- 2.5 The Consultant's Geotechnical investigation shall include, but not be limited to the following as appropriate:

- 1. Roadway structural section requirements and the availability of structural section materials.
- 2. Location and depths of topsoil.
- 3. Soil shrinkage/swell characteristics.

4. Slope stability in embankment/excavation locations.
5. Groundwater pH and resistivity conditions requiring design considerations.
6. Design values for active, at rest, and passive soil pressures.
7. Allowable design loads or pressures for each foundation type.
8. Design methods for shallow and deep foundations.
9. Potential imported borrow site(s) meeting the requirements for the material(s) required (see also Section 417).
10. Design alternatives based on Geotechnical findings.

2.5 The Consultant shall include in the Special Provisions all notes related to materials found on the final construction plans and not already covered by the Specifications.

417 Earthwork

The Consultant shall attempt to achieve an approximate earthwork balance for the project consistent with good engineering practice based upon the type of material and with consideration given to environmental mitigation measures unless otherwise directed. This may be accomplished by: a) refining roadway geometry (alignment and/or profile) utilizing ADOT Standard Drawings C-02 for slopes; b) adjustment of ditch widths and/or back slope rates to obtain excavation of additional suitable material; c) flattening of embankment slopes or creation of 'false cuts' to dispose of excess material; or combinations of a), b) and c). Adjustments shall not adversely affect water quality and must be coordinated with the project team, including the USFS coordinator, if applicable. Cost of additional right-of-way and environmental concerns must be weighed in determining the most feasible solution for the project.

When a project requires borrow or waste sites, the Consultant shall investigate and recommend the site requirements as outlined under paragraphs A, B, C and/or D below:

2.5 Current ADOT Borrow Pits

The investigation shall begin with a review of current borrow pit information available in the ADOT Material Section. "Current" in this context means that ADOT has or is expected to have licenses for any recommended pits that will not expire until after the estimated construction completion date. Note that ADOT is not necessarily licensed for wasting at all current borrow pits. The results of the investigation shall be included in the Consultant's Geotechnical investigation (see Section 416).

2.5 Commercial Borrow Pits

Commercial borrow pits are an acceptable alternative to ADOT borrow pits. If recommended, the analysis and test results of the commercial borrow materials shall be included in the Consultant's geotechnical investigation (see Section 416).

2.5 New Borrow Pits

The licensing of new borrow pits for ADOT use is a lengthy process and should be considered only in the absence of acceptable current ADOT or commercial borrow pits. If the locating, testing and environmental analysis of any new borrow pits is required to complete the design of the project, this work will be added to the contract by contract modification. The analysis and test results shall be contained in a separate report submitted by the Consultant not later than the Stage III submittal.

2.5 Waste Sites

If the project cannot be balanced and it is determined that a designated waste site is required, the Consultant shall investigate and recommend the nearest site where material can be wasted. (See Section 455)

418 Special Materials

In the case where a special material(s), i.e. a material with characteristics and design values out of the normal range, is required to meet exacting design requirements, the Consultant shall coordinate with the ADOT project manager, ADOT materials section, and/or the Engineering District before changing the design or researching the location of such material(s).

419 Pavement Design

- A. The Consultant shall prepare a pavement design in accordance with the requirements of the ADOT MPE&D Manual.
- B. New pavement design shall conform to the approved AASHTO method. Structural overlay design shall conform to the Structural Overlay Design for Arizona (SODA) method.
- C. The Consultant's proposed pavement design recommendation shall be included in the Pavement Design Summary as described in the ADOT MPE&D Manual, Section 505.00. "Materials Section Design Report Standard Items" shall be used in the preparation of the pavement design report.
- D. The Material Design Memorandum shall contain the Consultant's final recommendations for the proposed pavement design, including recommendations for special provisions and construction procedures, as described in the ADOT MPE&D Manual section 505.00, including the use of "Material Section Design Report Standard Items."

420 ENVIRONMENTAL STUDIES

Activities that require soil and/or vegetation disturbance such as Geotechnical investigations, surveys, utility relocation, etc. may not begin until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or biological evaluations) is issued by ADOT. ADOT Environmental Planning Section, in coordination with the affected federal, state and local agencies and jurisdictions, will issue the required clearance.

430 UTILITIES AND RAILROADS

E. General

All work shall be performed in accordance with U&RR's *Guide for Accommodating Utilities on Highway Right-of-Way*.

F. Definitions

- 1) Utility: A facility which transmits or distributes communication, cable television, electricity, heat, gas, oil, crude products, water, sewer, waste or any other similar commodity which directly or indirectly serves the public. Traffic signals, street lighting, or utility facilities owned by private individuals for use on their own property are not considered "utilities" to be adjusted under this Section.
- 2) Utility Company: A municipality, public service corporation, utility district, etc., which owns and operates utilities that serve the general public. Unless otherwise noted, the procedures to be used with railroad companies will be the same as those used with utility companies.
- 3) Prior Rights documentation: Documents showing that the utility company's facility predates the acquisition of the property for highway purposes, or that it occupies an easement or other compensable land right. Such documents provide verification that the State is obligated to compensate the utility company for the cost of relocations or adjustments required to accommodate the highway project.
- 4) U&RR: Utility and Railroad Engineering Section, Arizona Department of Transportation.

C. Previous information

The Consultant shall use all available utility location information including that obtained during the General Plan phase, as provided by the ADOT Project Manager. This information, and additional information gathered later, shall be shown on the plans prior to submittal to the utility companies for review.

D. Identification of utilities

- 1) by Design Consultant

The Design Consultant shall contact and coordinate with all the utility companies serving the project area to obtain utility as-built information.

- 2) by Locating Consultant

The Design Consultant shall prepare and furnish to U&RR a base map with matching ground controls at intervals of no more than five hundred (500) foot intervals together with a description of the desired area for utility horizontal designation. Where elevations are necessary for the determination of conflicts, the Design Consultant shall provide a list of the possible conflict locations and conflicting utilities. This list will be used by the locating consultant for identification of potholing locations to provide

accurate horizontal and vertical location of the utility. This normally is appropriate following completion of Stage II plans. This map shall be presented on diskettes using Intergraph CADD format to ADOT CADD standards.

3) Railroad information

If railroads are involved in the project the design consultant shall request U&RR to make the initial contact with the railroad company to obtain railroad information.

431 Utilities Conflicts and Adjustments

- A. The Consultant shall determine any utility conflicts which require the utility to be relocated or adjusted, and shall advise the utility owner and U&RR.
- B. The Consultant shall advise U&RR of upgrades or betterments requested by utility companies.
- C. When a property is acquired in total for a highway project, any utility issues are resolved as part of the right of way acquisition. However, when there is only a partial take of property for highway purposes, the Consultant shall arrange for the adjustment of service lines, meters, etc.
- D. The Consultant shall arrange and conduct utility coordination meetings to facilitate identification and resolution of conflicts.
- E. The Consultant shall be responsible for reviewing relocation plans produced by utility companies to assure that utility conflicts are eliminated and that proposed utility installations conform to U&RR's *Guide for Accommodating Utilities on Highway Right-of-Way*. The Consultant shall resolve issues between utility companies which desire to relocate within the same location or corridor.
- F. At the request of U&RR, the Consultant shall verify that prior rights documentation submitted by utility companies represent the correct relocation area.
- G. Only U&RR will authorize utility companies to start design and construction for their relocation facilities where they have prior rights and want reimbursement for their design.
- H. The Consultant shall prepare draft Utility Special Provisions and submit them to U&RR for comment.

432 Utility Plans

- I. The Consultant shall indicate all existing utilities on the Stage III plans for the project.
- J. The Consultant shall prepare reproducible plans showing the locations of all existing utility facilities and shall indicate the potential areas of conflict between the utility facilities and the roadway improvements. Vertical locations of underground utilities shall be shown on sections or details when the actual elevation has been determined by potholing. Vertical locations may also be shown if the elevation can be determined from an engineering drawing with a proposed elevation. A utility line may also be

shown in profile without an elevation (N.T.S) if the utility line was not located but for information the line will be crossed during construction.

- K. The Consultant shall furnish copies of the Stage III and IV plans to U&RR and each utility company which has facilities in the area. Copies of cross sections will also be furnished upon request from the utility companies or U&RR. The size of the plans, 1/2 size or full size, shall be as requested by the utility companies. In all cases, the plans shall be scaleable i.e., full size or true half-size. The Consultant shall send the plans to the utility companies, receive the responses, and provide to U&RR copies of all correspondence to and from the utility companies.
- L. The Consultant shall include planned utility relocations on the Stage IV plans.

433 Utility Relocations and Adjustments

Where a utility relocation may be required:

- M. The Consultant shall identify possible alternatives to minimize utility conflicts.
- N. The Consultant shall notify the utility owner and U&RR promptly upon determination that relocation of a utility company facility is required.
- O. U&RR will determine, by examination of prior rights documentation provided by the utility company, the utility's rights to occupy the area of conflict and who is responsible for the cost of the relocation. U&RR will notify the utility company to relocate at its own expense, or will obtain any necessary cost estimates and will prepare any necessary agreements to cover the utility relocation work when it is to be an ADOT expense.
- P. At the request of the utility company, adjustments may be included in plans and specifications for work to be performed by ADOT's contractor. This will require a Utility Agreement between the utility company and ADOT. U&RR will prepare the agreement.
 - 1) Utilities with prior rights--ADOT is responsible for the cost:
 - a. Consultant shall advise U&RR of the utility company's request.
 - b. Consultant shall provide an estimate of the cost, or review and comment on the cost estimate provided by the utility company.
 - c. Consultant shall cooperate with each utility company to ensure that adequate information is included in the bid package.
 - 2) Additions, betterments, and utilities lacking prior rights - the utility company is responsible for the cost:
 - a. Consultant shall advise U&RR of the utility company's request, and shall advise the utility company that approval of its request is subject to concurrence by ADOT.

- b. Consultant shall provide an estimate of the cost, or review and comment on the cost estimate provided by the utility company.
- c. Consultant shall cooperate with each utility company to ensure that adequate information is included in the bid package.
- d. The Consultant shall keep a separate accounting of design time and expenses required for utility relocation and adjustments, and shall advise U&RR of these costs promptly upon completion of the design for inclusion in a Utility Agreement and payment prior to bid advertisement.

434 Utility Special Provisions and Clearance Letter

A. Special Provisions

The Consultant shall prepare draft Special Provisions and submit them to U&RR for comment. The Consultant shall prepare final Special Provisions.

The Utility Special Provisions shall include the following:

- 1) List of utility companies in the area, and contact person's name and telephone number.
- 2) A statement that there are no conflicts or a statement of utilities that are in conflict.
- 3) Work to be performed by utility companies during highway construction.
- 4) Completion date or schedule for each utility conflict to be removed by utility company.
- 5) Work to be performed for the utility company by the Contractor.
- 6) Utility license, permit, insurance, or right of entry requirements.

B. Clearance Letter

The consultant shall prepare a utility clearance letter and submit it, together with copies of correspondence from utility companies verifying the information, to U&RR for review and concurrence.

- 1) If there are no conflicts:

The statement that there are no utilities in conflict with construction shall be used only when there are no utility facilities needing adjustment or when all adjustments have been completed prior to writing the clearance letter.

- 2) If adjustments are needed:

When adjustments are required the clearance letter shall list each utility company separately, showing:

- a.. The name of the company
- b. The nature of required adjustment
- c. The status of Agreements and permits
- d. The status of the utility adjustment

(1) Completed

(2) To be done by contractor during construction

(3) To be done by utility company during construction, with estimated completion date or number of working days

(4) In progress, with estimated completion date

435 PUBLIC INFORMATION MEETINGS AND PUBLIC HEARINGS

The Consultant shall provide staff and/or materials for public information meetings as outlined below if they are found to be necessary. ADOT will be responsible for advertisement and will make arrangements for the public information meeting. ADOT will provide a moderator and any liability insurance required.

A. Public Information Meetings

The Consultant and staff shall be available, at five (5) workdays notice, to attend meetings or make a presentation at the request of ADOT. The purpose of these meetings shall be to inform the public of and answer questions regarding the scope, details, and anticipated schedule of the project. Such meetings and presentations may be held at any hours between 8:00 AM and 12:00 midnight on any day of the week except legal holidays. The Consultant will be responsible, as applicable, for the preparation of graphics, hand-out materials, minutes of the meetings, audiovisual displays and similar material for such meetings. All such materials shall prominently identify ADOT. The Consultant shall expect to work with the team to finalize the agenda for any public meetings.

B. Public Information News Releases

The Consultant and staff shall be available, with one workday of notice, to support the ADOT preparation of newspaper articles, newsletters, flyers, radio and TV announcements, etc. and to assist ADOT with responses to verbal and written questions from the media and the general public. The purpose of these news releases shall be to provide the media and public with the latest information on the project scope, details and schedule of the project.

440 ROADWAY DESIGN

The Consultant shall prepare design plans on ADOT standard sheets and construction documents for the roadway improvements including but not limited to the following:

- A. Face sheet and List of Standard Drawings (ADOT will provide these sheets for incorporation into the design plans)
- C. General notes
- D. Design sheet and index
- E. Typical roadway and detour sections
- F. Roadway and detour plans and profiles
- G. Intersection plans and profiles, including staking plans
- H. Cross road and frontage road plans and profiles
- I. Retaining wall and sound barrier wall plans and profiles
- J. Earthwork quantities
- K. Details
- L. Special provisions
- M. Cross sections
- N. Arizona State Plane Coordinate Ties

- NOTES:
1. Standard plan sheet size is 22" x 36" with borders as specified by ADOT.
 2. Cross sections will not be part of the plans, but will be reviewed and made available to contractors bidding on this project. Therefore, the cross sections must be suitable for reproduction. Horizontal and vertical scales shall be the same. Each cross section shall show the plotted roadway template superimposed on the plotted natural terrain. Cross sections shall be drawn on vellum grid paper. Submittals may be on standard 24" x 36" sheets. Cross sections shall normally be prepared at one hundred (100) foot intervals, as a minimum, with additional sections at breaks in the terrain unless otherwise directed by the ADOT Project Manager. (Cross sections shall be included in all submittals to utility companies and as requested by other members of the team).
 3. All designs shall conform with the latest Americans with Disabilities Act Accessibility Guidelines Title I and II.
 4. The Consultant shall provide the various ADOT Technical Sections involved in the design of this project with roadway base sheets as required.

445 BRIDGE DESIGN AND BRIDGE DRAINAGE DESIGN

The Consultant shall prepare designs and construction documents for structural design including, but not necessarily limited to:

- O. General plan
- P. General notes and quantities
- Q. Foundation sheets
- R. Abutment details
- S. Pier details
- T. Superstructure sheets
- U. Screed elevations
- V. Special details (if applicable)
- W. Stage construction sequencing details (if applicable)
- X. Pile records (if applicable)
- Y. Special provisions and cost estimates

NOTE: All design plan sheets shall be trimmed to 22" x 36".

446 Bridge Structure Selection Report

During Stage II, prior to preparation of final designs and construction documents, the Consultant shall submit a Bridge Selection Report for the new bridge and/or for renovation of the existing bridge. The report shall be prepared in accordance with the ADOT Bridge Designing and Detailing manual. ADOT must approve the report prior to the Consultant beginning the final design of each bridge.

The final structural plans shall reflect the most current design standards, specifications and ADOT policy. Therefore, the Consultant shall be responsible for studying revisions to the plans made during the development of the project and ascertaining how the structural design will be affected. The Consultant shall work with the ADOT Project Manager, who will give the final authorization, in determining the propriety of modifying the design to accommodate the revised standards, specifications and ADOT policy. The Consultant will be compensated by Contract Modification for any significant redesign work resulting from this requirement. A final review of the applicable standards and specifications will be conducted by the Consultant at Stage IV.

450 ROADWAY DRAINAGE DESIGN

451 Drainage Reports

- Z. The Consultant shall be responsible for preparing the Initial and Final Drainage Reports for on-site drainage, off-site drainage and pump station analysis.

AA.The Consultant shall conduct hydrologic and hydraulic analysis and/or obtain available public information to identify flood plains and probable flood plain impacts. The Consultant shall determine existing and developed conditions, discharges for all pertinent drainage systems, and existing flow patterns; assess possible drainage problems, identify possible solutions, and propose tentative hydraulic improvements.

Part A of the Initial Drainage Report, hydrologic information, may be submitted and informally discussed with the ADOT project manager prior to detailed hydraulic analysis in order to facilitate proper progress of the study. The Drainage Report may require additional data as it relates to NPDES, e.g., flow analysis in ditches, intersecting drainages, etc., in order to adequately design temporary erosion control structures.

Following Part A, Hydrologic Information Review, the Consultant shall conduct hydraulic analyses of proposed flood plain modifications, hydraulic structures, and drainage-related improvements which are proposed. The Consultant will then prepare an Initial Drainage Report consisting of both Part A, Hydrologic and Part B, Hydraulic studies and their supporting documentation.

BB.The Consultant shall prepare a Final Drainage Report, pursuant to comments and approval of the Initial Drainage Report, based on refined hydraulic structure selections and sizing. The report shall provide analysis of changes to existing flow patterns and the design of channels, culverts and other drainage structures.

The Final Drainage Report shall be submitted concurrent with the Stage III Design submittal unless other arrangements are made with the ADOT Project Manager.

452 Drainage Designs

The Consultant shall prepare designs and construction documents for drainage features including, but not limited to:

CC.Drainage culverts and underpass structures for cattle/game crossings

DD.Catch basins, manholes and connector pipes

EE.Drainage pipe and concrete box culvert summary sheets

FF.Drainage details

GG.Drainage culvert profiles

HH.Retention/detention basins

453 Section 404 Permit

ADOT with the Consultant, as appropriate, in consultation with the Corps of Engineers, will determine the need for a Section 404 permit. If a permit is required, ADOT will process the permit application. The Consultant shall be responsible for providing ADOT with technical data for the roadway cross drainage-ways (i.e. typical sections, location and approximate areas of

cut and fill within each drainage way) to support the determination of need for a permit and/or the permit application.

454 Evaluation of Alternative Pipe Culvert Materials

The Consultant shall be responsible for evaluating all forms of ADOT approved pipe culverts. Evaluation documentation shall be included with the design calculations per Section 1040. Valid designs shall be indicated on the new pipe summary sheet.

455 LANDSCAPE ARCHITECTURAL DESIGN AND EROSION CONTROL DESIGN

A. The Consultant shall be responsible for completing all temporary and permanent erosion control plans, specifications and estimates in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from Roadside Development Section.

A. The Consultant shall be responsible for completing necessary plans, specifications and estimates required to implement the necessary environmental mitigation as required by the Final Environmental Determination. This will include but not be limited to the following:

1. Preparation of a resource protection plan that will preserve and protect existing vegetation on or adjacent to the work site that does not unreasonably interfere with work requirements, identify sensitive areas within the project limits to include riparian areas and key visual areas such as rock outcrops and vegetation that are to be retained, identify potential Contractor staging sites, equipment yards, batch plants, waste earthwork disposal sites, etc.
2. Prepare site-specific reclamation and re-vegetation plans and seeding specifications in coordination with Roadside Development Section.
3. If the project earthwork cannot be balanced and waste site(s) are proposed on Forest lands, the Consultant shall coordinate with the National Forest on possible waste sites and recommend treatments for disposal of the materials. If waste sites are approved on Forest lands, the Consultant shall develop complete contour grading plans that will provide variable slopes with smooth and rounded transitions and will preserve existing vegetation, land forms and drainage patterns.

C. The Consultant shall be responsible for the preparation of the Storm Water Pollution Prevention Plan (SWPPP) to meet the requirements of Section 402 of the Clean Water Act (NPDES). This shall include the preparation of the SWPPP Standard Sheet and the preparation of erosion control plans for the project in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from Roadside Development Section. The erosion control plan shall show the location of the temporary erosion and sediment control features necessary to prevent storm water pollution and shall include erosion control summary sheets, erosion control details, erosion control plan sheets, specifications and estimates. The permanent erosion control features shall be shown on the roadway plans and as appropriate, specified in the special provisions.

460 TRAFFIC ENGINEERING DESIGN

461 Traffic Data

The Consultant shall provide any necessary traffic data that are not provided by ADOT (Section 740) including:

- D. Twenty-four (24) hour traffic counts
- E. Turning movements at intersections

462 Traffic Control Plans

- F. The Consultant shall prepare construction sequencing plans that will detail construction phasing and patterns for traffic flow, maintain access to businesses, schools, residences, etc., and provide a minimum of one lane of traffic in each direction during construction.
- G. The Consultant shall determine the need for Traffic Control Plans and prepare same for each phase of construction detailing construction phasing, patterns for traffic flow, access to local businesses and residences, any temporary signing, temporary pavement marking, temporary concrete barrier, flashing arrow panels, flagging operations, etc. Summary quantities, shall be indicated on the Traffic Control Plans and included in the estimate for traffic control.

463 Roadway Lighting and Intersection Signalization

464 Signing Plans

The consultant shall prepare designs for signing that are consistent with current signing practice and in conformance with the Manual on Uniform Traffic Control Devices (MUTCD), the Traffic Engineering Design Manual, the Manual of Approved Signs (MOAS), and Traffic Group's Sign Sheetting Guidelines, dated May 31, 1996. Freeway signing within the MAG Regional Freeway System shall also conform to the MAG Network Signing Plan, dated January 1992.

A signing summary shall be provided in the project plans. Non-standard signs shall be detailed on the project plans following the formats given in the above referenced documents. The signing summary, a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

465 Pavement Marking Plans

The Consultant shall prepare permanent pavement marking designs for the roadways within the project limits to show center, edge and lane line striping, stop lines, crosswalks, arrows, legends, and symbols, raised or recessed pavement markers, object markers, delineation or other markings as may be consistent with the needs of the project and in conformance to the requirements of the MUTCD, the Traffic Design Manual, and the Standard Drawings. The consultant shall confer with the district representative and Traffic Group to determine which types of marking or delineation materials are appropriate for the project. The summary of quantities, a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

467 Composite Traffic Control Device Plan

The Consultant shall provide a composite plan indicating signing and pavement markings to facilitate proper review of the control and devices that will be visible to motorists.

470 RIGHT-OF-WAY

471 Right-of-Way Requirements Determination

The Consultant shall determine the requirements for new Right-of-Way (R/W) and easements, including, but not limited to, new roadway R/W, slope easements, drainage easements, temporary construction easements, waste site R/W, access control R/W, borrow pit R/W and haul road R/W.

No revisions or additions to the R/W requirements will be allowed after the Stage III submittal without the approval of the ADOT Project Manager.

The new R/W requirements shall be submitted in triplicate to ADOT for review and shall include the following as a minimum:

- H. A letter indicating the project name, contract number, project location, originator of report (Firm's Name), submittal date and submittal type (Stage II or III).
- I. A plan of sufficient scale and detail to show the existing and proposed roadway R/W and proposed easements.
- J. Type of acquisition required.

472 Right-of-Way Acquisition

If new R/W is required for the project, ADOT will acquire all necessary R/W and easements. Based on the requirements provided by the Consultant, ADOT will:

- K. Prepare final R/W plans and associated documents necessary for R/W acquisition (Final plans may be prepared by others).
- L. Acquire necessary R/W including easements, material sites and waste sites.
- M. Obtain the necessary authority to proceed with the various phases of property acquisition.
- N. Prepare the necessary data for Transportation Board resolutions and project clearance letters.

473 Temporary Entry Documents

A temporary entry document for entry to each parcel for any or all of the following activities is required: Geotechnical investigations and design or construction survey work. The Consultant shall notify ADOT of the need for any temporary entry documents no later than thirty (30) days after the notice to proceed. ADOT will obtain the appropriate owner's signature. The Consultant may not enter any such property prior to approval of the temporary entry documents by ADOT.

480 COST ESTIMATES

The Consultant shall prepare combined and detailed estimates (cost estimates) in the format recommended by Contracts and Specifications Section. The cost estimate shall include a recapitulation sheet concurrent with each review submittal. Computer generated estimate forms may be used, provided the format is approved by the Contracts and Specifications Section. At the Stage II review, the Consultant shall prepare a bidding schedule and concurrently with each review submittal thereafter. ADOT will provide the necessary format.

The budgeted cost for this project is indicated in Section 140 of this Scope of Work. The Consultant shall immediately advise ADOT, in writing, if there is any reason to believe the project cannot be constructed within the allocated budget. The Consultant shall identify options to maintain the project within budget, including shortening the project, revising criteria, or phasing changes.

485 SPECIFICATIONS

The Consultant shall be responsible for identifying critical elements of construction, including, but not limited to, construction limits, access requirements, potential night construction, coordination with affected local agencies (police, fire, USFS, etc.), traffic lanes open, scheduling of work time (bar chart format illustrating estimated construction time), utility trench close ups, incentives and liquidated damages, State-furnished materials, critical materials requiring pre-bid purchase, and limitations specifically addressed in the environmental, right-of-way, and utility clearances.

490 SPECIAL PROVISIONS

The Consultant shall prepare Special Provisions for items, details, and procedures not adequately covered by ADOT's Standard Specifications and Stored Specifications. Unusual requirements necessary for obtaining permits for hauling materials shall also be included. Special Provisions shall be submitted at the Stage III and Stage IV project reviews. Final Special Provisions shall be sealed by the Engineer in responsible charge. The Consultant shall be responsible for incorporating any specifications provided by ADOT technical sections into the draft and final Special Provisions. ADOT shall review all submittals of Special Provisions and the Consultant will prepare the final Special Provisions.

495 CONTRACTS AND SPECIFICATIONS PROCESS

The Consultant shall, under the direction of ADOT, support the Contracts and Specifications process after completion of the Final Submittal stage leading to the complete bid documents as follows:

- O. Promptly answer questions relative to the plans, quantities, and Special Provisions.
- P. Make any necessary corrections to the plans, typical sections, Special Provisions, quantities, notes, etc. as required.
- Q. Prepare any addenda required to clarify the work included in the contract documents as requested by the Contracts & Specifications section. The addenda shall be prepared immediately upon request. Addenda may be required based on the project inspection

with the assigned ADOT Resident Engineer, questions developed in the pre-bid conference, or conditions discovered by bidders during the bid period.

- R. The Consultant shall, prior to the pre-bid conference be prepared to walk the project with the assigned ADOT Resident Engineer to discuss the plans and details.
- S. The Consultant shall be prepared to attend the pre-bid conference, if one is scheduled, and present an appropriately-sized display showing the project layout, proposed traffic control and construction phasing, and shall be prepared to discuss other constraints so that the potential bidders will be better able to relate to the intent of the construction of the project. The Consultant shall respond to questions related to the plans, details and special provisions.
- T. The Consultant shall be prepared to assist in the analysis of bids, including: determination of reasonableness and justification of cost variances, analysis of original cost estimate compared to contractor bid costs.

SECTION 600 - POST-DESIGN SERVICES

ADOT will coordinate all post-design services and will act as the principal initial contact for post-design questions. The Consultant shall be responsible for the post-design services described below. **Additional work required will be added to the contract by contract modification.**

- U. The Consultant shall be available, within twenty-four (24) hours of notification, to respond to questions in the field that may arise relative to the plans, details, or special provisions during construction.
- V. The Consultant shall review and approve shop drawings, erection procedure plans, and form work details, review proposals for substitutions or "approved alternates," assist the resident engineer to develop change orders, and provide other engineering services required to facilitate construction of the project.
- W. The Consultant shall appoint a responsible member of the firm to be the contact person for all post-design services. The person shall be continually available during the course of construction for review and updating of design plans.
- X. The Consultant shall make every reasonable effort to process any material presented for review in a prompt manner.
- Y. The Consultant may be required to attend the Pre-Construction Partnering Workshop.
- Z. Monthly Utility Coordination Meetings shall continue until the Contractor has been selected and the Partnering/PreConstruction Meetings have been held by ADOT.

SECTION 700 - MATERIALS FURNISHED BY ADOT

710 Surveys and Mapping

ADOT will provide the following materials, as available:

AA. Horizontal and vertical control for existing alignments

BB.Descriptions and values for Geodetic control

CC.Field Survey

- a. Planimetric maps
- b. Topographic maps
- c. Digital Terrain Model
- d. Profile maps

D. Control for aerial maps

E. Photogrammetric Mapping (Contour Interval = 2 ft.)

- 2 1" = 50' photogrammetric mapping
- 2 1" = 100' photogrammetric mapping
- 2 1" = 50' Digital Terrain Model
- 2 1" = 100' Digital Terrain Model

F. Photo mosaic

G. Aerial photos

H. ADOT State Plane Coordinate Grid Adjustment Factor(s)

720 Materials Investigation

ADOT will provide the following materials:

- I. Geotechnical report if applicable
- J. Pavement design summary if applicable
- K. Materials design report if applicable
- L. ADOT will provide review of all submitted reports prepared by others for this project.

730 Record Documents

ADOT will provide the Consultant the following ADOT drawings:

- M. Available "as built" plans, of existing conditions
- N. Available right-of-way plans of existing conditions

740 Traffic Data

ADOT will provide the following design traffic data:

- O. Current and design year ADT's
- P. K, D, and T factors

750 Environmental Studies

In addition to the Final Environmental documents, ADOT will provide, at the Consultant's request, any available environmental data prepared for this project (such as cultural resource surveys and investigations).

760 Base Sheets

ADOT will provide the Consultant with one (1) reproducible copy of each of the following base sheets as required for completion of the project plans. For Inter Graph-compatible CADD systems, these items will be provided on computer diskettes.

- Q. Roadway design section sheet
- R. New pipe summary sheet
- S. Barrier summary sheet
- T. Reinforced concrete box culvert summary sheet
- U. Roadside development section sheet
- V. Corrugated aluminum pipe extensions summary sheet
- W. Corrugated steel pipe extensions summary sheet
- X. Combination barrier and pipe summary sheet
- Y. Cell libraries (CADD only)
- Z. Font libraries (CADD only)
- AA.Face sheet
- BB.List of standard drawings sheets
- CC.Traffic design section sheets
- DD.Traffic operations section sheets
- EE.Right-of-way plans section sheet

770 Final Design Concept Report

The final design concept report was prepared by RBF Consulting who will also be completing the construction documents.

SECTION 1000 - CONTRACT ADMINISTRATION

1010 ARIZONA DEPARTMENT OF TRANSPORTATION

ADOT's Project Manager shall:

FF. Conduct ongoing reviews of the Consultant's progress in performing the work and ensure timely comments from the technical units.

GG. Direct design consensus status and team building meetings with all appropriate partners at the start and on a monthly basis during the project development period.

HH. Review the Consultant's billings.

II. Review and evaluate the Consultant's requests for extension of time and supplemental agreements.

JJ. Review all correspondence with public agencies prior to the Consultant's mailing of any correspondence.

KK. Coordinate the distribution of public information.

LL. Provide a focal-point contact for all questions, requests, and submittals.

MM. Coordinate project scheduling with the Consultant, ADOT sections, and ADOT Program and Project Management Section.

1020 CONSULTANT

The Consultant shall:

NN. Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project in the location specified in the Consultant's technical proposal.

OO. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project.

PP. Establish internal accounting methods and procedures for documenting and monitoring project costs.

QQ. Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts.

RR. Include the complete TRACS number and project name on all correspondence related to this contract.

SS.Participate in design consensus, status and team building meetings with all appropriate partners at the start, and on a monthly basis during the project development period and as needed to maintain the design schedule. If requested by the ADOT project manager, the Consultant shall act as the lead.

The Consultant is responsible for the accuracy and completeness of contract documents and related design prepared under this project. The plans will be reviewed by the project team including representatives of ADOT technical sections for conformity with ADOT procedures and the terms of the contract. **Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.**

1021 Project Control

The Consultant shall provide data, in the format specified by ADOT, upon request to monitor costs and manpower and to report progress.

The project control system may include features to:

TT.Determine and highlight critical path work from initial plans as work progresses.

UU.Identify progress against schedule for each identified work item.

VV.Forecast completion dates from current progress.

WW.Highlight rescheduled work in any area which is out of the required sequence.

XX.Determine any physical area that requires more resources than originally allocated.

YY.Forecast future conflicts in any area.

ZZ.Provide estimates of time, manpower, and dollars required at the lowest work element tracked, based upon current expenditures versus schedule.

AAA.Provide the capability of random inquiry concerning the status of any work element in terms of schedule, manpower, and dollars.

1022 Subcontract Services

It is anticipated that the Consultant may subcontract portions of the work such as the geotechnical investigation. All subcontracting firm(s) must be approved by Buckeye Land Management, Inc. prior to the initiation of any work.

1023 Project Related Correspondence

The Consultant shall furnish written documentation of communications between the Consultant and any party pertaining specifically to this project to ADOT for their records within one week of the communication. The Consultant is responsible for recording and distributing to the participants the minutes of all meetings pertaining to this project within one (1) week of the meeting.

1024 Quality Control

The Consultant is responsible for the accuracy and completeness of the plans and related design prepared under this contract and shall check all such material accordingly. The Consultant shall have a quality control plan in effect during the entire time work is being performed under this contract. The plan shall establish a process whereby plans, calculations and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. Non-compliance will be sufficient cause for rejection of submittal. Periodic Quality Control audits may be performed by the ADOT project manager.

The Consultant shall submit the quality control plan to ADOT for approval within fifteen (15) working days of receipt of written Notice to Proceed. The plan shall comply with the requirements of Section 1025. The plan shall address as a minimum: checking procedures, training of employees in quality requirements, methods of monitoring and documenting quality control activities.

1025 Quality Control Plan Requirements

BBB.Identification of key personnel and definition of specific responsibilities:

The plan will identify, by name, the specific project personnel and their individual responsibilities relative to the project and the Quality Control process.

CCC.Technical review process:

Technical review shall be distinguished from checking. Checking is for verification of the accuracy of the documents; technical review is for the verification of the overall design concept of the project. As a minimum, technical review will do the following:

1. Determine the adequacy of the design process to achieve the desired goals.
2. Evaluate the general selection and sizing of materials and equipment.
3. Determine if all viable alternatives have been considered.
4. Determine the practicality of the design concept.
5. Determine if legal and physical restraints were considered.
6. Determine if the design theory, concepts, and project layout are logical.
7. Determine applicability of computer programs used.
8. Determine if the technical specifications are sufficiently comprehensive.
9. Determine the construct ability of the selected design.

2.5Checking procedures:

The checking process should assure that all documents produced, including, but not limited to, plans, reports, calculations, specifications, special provisions, estimates, and schedules, are thoroughly checked by an individual equally competent to the originator of the document to verify accuracy. The process will address resolution of conflict and assure agreement of computer programs and procedures for checking computer input and output. Checking shall not only confirm the accuracy of calculations, but shall include a thorough review of the proper use of Standard Drawings, Drafting Guide, Project Design Guidelines, and other manuals and documents referenced under Section 200.

2.5Program to train employees in the quality control requirements:

The training program should provide an opportunity for all project staff to become familiar with the design and the quality control process that will be required on this project. Particular attention should be directed to defining specific individual responsibilities and assuring their understanding.

2.5Process to monitor and document quality control activities:

A method for monitoring and documenting the required processes is essential to achieve desired results. This process should easily and quickly verify the entire Quality Control process. A checklist should be developed for quick reference and periodic review by the Project Principal and ADOT.

1026 Consultant Personnel

The Consultant's work shall be performed and/or directed by the key personnel identified in the technical/fee proposal presentations by the Consultants. Any changes in the indicated key personnel or the Consultant's officer-in-charge of the work, as identified in the Consultant's proposal, shall be subject to review and approval by ADOT.

1027 Site Visit

The Consultant shall make arrangements to visit to the project site, with agency representatives as appropriate (ADOT, FHWA, National Forest and other interested persons), at least two (2) weeks prior to the visit. The visit will be held within fifteen (15) working days of the receipt of written Notice to Proceed, or as otherwise instructed by the ADOT project manager. Within seven (7) calendar days of the site visit, the Consultant shall issue to ADOT a brief written report including observations, discussions, and any questions pertaining to the scope or level of effort of the project. The purpose of this visit is to acquaint key personnel with the details and features of the project to facilitate the design process.

1030 ACCEPTABILITY OF THE WORK

The plans, design, requested calculations, reports and other documents furnished under this Scope of Work shall conform to "standards-of-the industry" quality. Criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and with the designer, maker and checker identified.

1040 DESIGN DOCUMENTATION

2.5 If requested, the Consultant shall submit any design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the contract documents to ADOT for review.

2.5 Structural calculations will only be submitted when requested by the Bridge Group and for specific elements.

2.5 At the project completion (immediately prior to the bid advertisement), a final set of project documentation sheets, sealed by a Professional Engineer, registered in the State of Arizona, shall be submitted with the record set of plans and tracings.

2.5 Project Documentation shall include, but is not necessarily limited to, the following data:

1. Design criteria used for the project
2. Right-of-way calculations (including easements)
3. Geotechnical reports for the pavement and/or bridge design
4. Documentation of decisions reached resulting from meetings, telephone conversations or site visits.
5. Drainage reports

2.5 Computer-Aided Drafting and Design (CADD)

Drawings shall conform to the applicable ADOT drafting and CADD standards.

The CADD software to be used shall be Intergraph's, or certified Inter Graph products running on any computer platform that is supported by Inter Graph (PC, Sun, Mac, Inter Graph and Vax). The use of non-Inter Graph software/file formats and subsequent translation of the graphic files to the ISFF (Inter Graph Standard File Format) is not acceptable. Graphic files shall contain data in vector format only - raster data will not be acceptable for this project.

At the completion of the project, all of the pertinent CADD files (graphic, ascii, dtm, etcetera) shall be delivered to ADOT on DOS format 3.5" floppies. Alternate delivery media must be approved by ADOT Computer Aided Engineering Section. All media containing final project data should be packaged separately, suitably labeled and delivered to the Computer Aided Engineering Section at mail drop 622E.

The final hard copy deliverables for this project shall be as outlined in other sections of this contract.

1050 VALUE ANALYSIS – Not Applicable

The project may be subject to a value analysis at the Stage II Design phase. "Value Analysis" consists of those tasks performed by a Value Analysis Team in accordance with the Value Analysis Program Manual as referenced in Section 200 of the Scope of Work and available

from the ADOT Special Programs Section. Any studies or other activities of a similar nature, shall not be referred to as "Value Analysis."

The Consultant is encouraged to recommend value analysis for ADOT standards and specifications, as well as for elements of the project. The Value Analysis Study must be approved in advance by the Deputy State Engineer, Planning and Engineering as noted in the above-referenced Policy and Procedures.

1051 Value Analysis Team – Not Applicable

The value study will be performed by a Value Analysis Team consisting of ADOT personnel, personnel from other consultants or outside agencies, or some combination of these sources. The Consultant shall cooperate fully with the Value Analysis Team, providing necessary background information for analysis, although not normally participating in the formal study.

1052 Consultant's Responsibilities – Not Applicable

- A. The Consultant, upon notification of the approval of a value analysis, shall compile appropriate data for analysis and make a presentation to the Value Analysis Team, in accordance with the Study Plan prepared by the Value Engineer. The Consultant shall communicate and cooperate fully with ADOT's value engineer, project manager, and the value analysis team.
- B. It is expected that the elements necessary for a value study can be assembled and delivered by the consultant with minimum expenditure of effort and time under its normal design procedures in approximately four (4) working days. The Consultant will be allowed to budget thirty-two (32) man-hours for data compilation, the presentation, and study response, if appropriate. Although costs for value analysis activities are not identified as a separate expense item for accounting purposes, the Consultant shall report the hours expended and estimated costs of labor and materials to the ADOT Value Engineer for cost tracking and value analysis program evaluation purposes.
- C. In accordance with the Program Manual, the findings and recommendations of the value study will be forwarded to the ADOT Group Manager(s) for review. If the Group Manager(s) disagree(s) with some or all of the recommendations, the Deputy State Engineer, Planning and Engineering will make a final determination. The Consultant shall implement the approved findings and recommendations of the value study. If significant redesign is necessary, the additional work will be added to the Scope of Work by contract modification.

1060 REVIEWS AND SUBMITTALS

2.5 Review and coordination of the Consultant's work by ADOT will continue through the project development process. The Consultant may continue the design work while design submittals are being reviewed by ADOT. Doing so however in no way relieves the Consultant of the responsibility to incorporate review comments into the design, nor does it entitle the Consultant to any additional design fees as a result of making changes due to review comments.

2.5 Partnering Workshops

- 2 If requested by ADOT, the Consultant shall participate in joint progress meetings and consensus sessions with other designers on this corridor.
- 2 The Consultant shall participate in a Construction Partnering Seminar after the project has been awarded and prior to the start of construction.

2.5 Submittals for review shall be made when the studies and/or plans have been developed to the following levels of completion:

1. Quality control plan
2. Stage I design
3. AASHTO report
4. Stage II design
5. Stage III design
6. Stage IV design

2.5 This project may be subject to a constructability review. The Resident Engineer or other assigned District representative will be the leader of the constructability review which would normally occur after the Stage III submittal and before the Stage IV submittal.

2.5 Copies of review submittals and finalized documents shall be distributed by the Consultant in accordance with the Distribution List maintained by the Valley Project Management Section (see Appendix C) or as per the ADOT project manager's instructions. The appropriate name for each position may be obtained from the ADOT project manager upon request one week prior to any submittal deadline. All deliveries shall be by hand or overnight courier. All plans shall be half-size black and white sheets.

1061 Environmental Reports – Not Applicable

1062 Stage I Design Submittal – Not Applicable

An informal review and discussion of the project shall be held prior to the Stage I review submittal. The meeting shall take place as soon as the Consultant has established pre-initial roadway alignment, typical roadway sections, and a tentative plans layout for the project.

The attendees shall consist of the Consultant, the assigned design team including ADOT staff involved in the project design, the ADOT project manager and other concerned personnel invited by the ADOT project manager.

The following material shall be developed and submitted to the ADOT Project Manager for review:

- A. Initial typical roadway sections.
- B. Initial roadway plan and profile sheets at the scales set in Section 410.

C. Tentative plans layout.

D. Initial environmental mitigation measures.

1063 Stage II Design Submittal – Not Applicable

2.5 The following material shall be developed and submitted for review:

1. Typical roadway and detour sections.
2. Initial roadway geometry and preliminary roadway and detour plan and profile sheets.
3. Location of existing utilities and identification of initial utility conflicts.
4. Initial R/W and easement requirements.
5. Initial roadway drainage plans.
6. Initial Drainage Report.
7. If required, draft applications for environmental permits including preliminary input for Section 404 permit.
8. Any significant change in engineering data supporting previous environmental decisions or applications.
9. Preliminary summary of required environmental mitigation measures.
10. Initial development of intersection plans including basic geometry and channelization.
11. Initial layouts for proposed retaining and sound barrier walls.
12. Initial construction sequencing plans.
13. Preliminary Geotechnical Report.
14. Preliminary Bridge Selection Report.
15. Final survey information.
16. Initial quantities and cost estimate.
17. Initial roadway cross sections at one hundred (100) ft. intervals, as a minimum, with additional sections at breaks in the terrain.
18. Initial summary of earthwork quantities.

2.5 The Geotechnical report shall be submitted to ADOT for review and approval a minimum of fifteen (15) calendar days prior to the Stage II design submittal.

1064 Stage III Design Submittal

A. The following material shall be developed and submitted for review:

1. Design Sheet(s) with Index and General Notes.
2. Summary Sheets.
3. Final typical roadway and detour sections.
4. Preliminary roadway and detour plan and profile sheets.
5. Identification of final utility conflicts and preliminary plans of utility installations, and/or re-locations to be included in project construction.
6. Final R/W and easement requirements.
7. Preliminary roadway drainage plans and details.
8. Pre-Final Drainage Report.
9. Completed applications for environmental permits including final input for Section 404 permit.
10. Any significant change in engineering data supporting previous environmental decisions or applications.
11. Final summary of required environmental mitigation measures.
12. Preliminary intersection plan sheets.
13. Final construction sequencing plans.
14. Preliminary retaining and sound barrier wall plans and details.
15. Preliminary landscape, irrigation plans, details and proposed sources of water and power.
16. Preliminary Bridge Structure Plans.
17. Preliminary Traffic Control Plans.
18. Preliminary Pavement Marking and Signing Plans.
19. Preliminary Traffic Signal Plans.
20. Preliminary Lightning Plans.
21. Preliminary Pump Station Plans
22. Preliminary Freeway Protection (CSA) Plans.

23. Preliminary Detention Basin Plans.
24. Preliminary erosion control plans, summaries and details.
25. Preliminary special provisions including ADOT Stored Specifications.
26. Preliminary quantities, cost estimate and bidding schedule.
27. Preliminary construction schedule in bar chart format.
28. Preliminary roadway cross sections.
29. Summary of earthwork quantities.
30. Proposed water and electrical service requirements for future landscaping, and for future FMS features within the freeway corridor.

An office review and field review will be held following submittal of the Stage III plans to review the proposed roadway alignments and bridge site. See Section 410 of this Scope of Work for field review staking requirements.

1065 Stage IV Submittal

A. The following **final** material shall be completed, checked and submitted for review:

1. Design sheet(s) with index and general notes.
2. Summary sheets.
3. Special details.
4. Typical roadway and detour sections.
5. Roadway, detour plan and profile sheets.
6. Drainage plans and details.
7. Intersection plans and details.
8. Construction sequencing and traffic control plans.
9. Pump station plans.
10. Retaining wall and sound barrier wall design plans.
11. Signing and pavement marking plans.
12. Traffic signal and roadway lighting plans.
13. Landscape irrigation plans and details.

14. Bridge structure plans.
15. Freeway Protection (CSA) plans and details
16. Utility installation/relocation plans and details to be included in project construction.
17. Erosion control plans.
18. Roadway cross sections.
19. Final summary of earthwork quantities.
20. Quantities, cost estimate and bidding schedule (provide hard copy and diskette in Microsoft Excel).
21. Special provisions (provide hard copy and diskette in Microsoft Word).
22. Construction schedule.
23. Environmental permits.
24. Summary of environmental mitigation measures and disposition.
25. Final design calculations.

NOTE: The ADOT technical reviewer may require checked computations and checked data on the plans required for all of these items prior to submittal.

- B. ADOT's review of this submittal will include technical content, incorporation of previous comments, and completion of design and details, as well as:
1. Conformance with ADOT requirements.
 2. Completeness of the contract documents.
 3. Compatibility of plans, specifications and special provisions.
 4. Coordination between disciplines, phases and outside parties.
 5. Clarity of the contract documents.
 6. Consistency of presentation.

If additional submittals at this level are required due to noncompliance with this Scope of Work or ADOT's review comments, the work shall not entitle the Consultant to any additional design fees.

1066 Final Submittal

- A. The following material shall be submitted for completion of the project:

1. A complete reproducible set of sealed and signed contract document originals necessary to construct the road and bridge improvements identified in this contract.
2. A complete sealed and signed reproducible set and one copy of special provisions to cover design items not identified in the ADOT Standard Specifications for Road and Bridge Construction, current edition.
3. Final and complete quantity summaries and cost estimates.
4. An estimate of the contract time for the project construction.
5. Final survey computations and original field books.
6. Approved environmental permits if required.
7. A reproducible set of earthwork cross sections by station showing the plotted roadway template superimposed on the plotted natural terrain with quantities, calculations and overall summaries.
8. Return any documents and other materials provided for use on this project.

NOTES:

1. All seals must be of reproducible quality and all signatures in black ink.
2. All final plan sheets shall be trimmed to 22" by 34".
3. All final plan sheets shall be printed on 20 pound vellum not less than 3 mil nor more than 5 mil.
4. Plan sheets shall be black printing only.
5. Do not use paste-ups, tape or sticky back.
6. Do not use pencil on final drawings.

All review submittal prints of the construction plans shall be clearly stamped "**PRELIMINARY - NOT FOR CONSTRUCTION**". The percentage of completion and date submitted should be clearly evident. Failure to comply may be cause for rejection of the submittal. Only the final, approved plans, properly sealed by an Arizona Registered Professional Engineer, shall be issued without the above stamped notation.

